

ITEMS OF INTEREST.

VOL XVII.

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ORIGINAL COMMUNICATIONS.

HOW TO VULCANIZE RUBBER PLATES BETWEEN METALLIC SURFACES.

Dr. A. N. Dick, Woodland, Cal.

The process which I employ is the following: After the teeth have been articulated and the model buried in the lower half of the flask, trim away all surplus wax from the palatal side of the teeth, leaving the model exposed.

Now take a sheet of good modeling compound, rolled to the thickness desired for the plate, dip it in hot water and adjust it to the model and teeth, using a spoon to pour on the hot water till it fits perfectly, so as to develop the ruge on the lingual surface. Then with a sharp instrument trim the edges and finish to the desired shape of plate. Moisten the surface and burnish on a piece of extra tough tin foil No. 4, first pressing it to position with a bunch of cotton or the corner of a soft napkin. Let the burnishing be done very carefully with a smooth round instrument.

I prepare my sheet of modeling compound by pressing it between two pieces of glass. In that way I secure any thickness that I desire.

In preparing the plaster for the mold, pour the required amount of water in the mixing-cup and sprinkle the plaster on the water without stirring, till enough of the plaster has settled down in the water to give the desired consistency; by so doing, the air that is in the dry plaster will be floated out, so to speak, and not be carried in the mixture as it would be if the plaster was stirred from the beginning, thus securing a mold free from air bubbles. Then pour and let it set.

After opening the flask, pour a little hot water on the base-plate and lift it carefully from the underlying tin foil.

If these details are strictly followed by a skilful hand, the result will be a beautiful lingual surface that will require only

the felt and brush wheels to finish it. The file and sandpaper will be needed for the margins.

To secure a metallic surface for the palatal side of the plate is equally simple, and I think, to the mind of the practical man, needs no explanation. However, I would suggest that the same care should be used in mixing the plaster for the model as for the mold, otherwise there would be air holes in which the rubber would be forced through the tin foil and thus make a rough surface. The foil for the palatal side should be No. 4, and the model should be wet when the foil is applied to it. The foil should be applied to the model with the thumb and fingers without burnishing, as the burnisher would injure the model.

IMPRESSIONS FOR FULL CASES.

I do not consider plaster the ideal impression material for full cases. In making this assertion, I am well aware that I differ with many of my readers. A perfect impression of the mouth can be made with plaster mixed thin. It gives a perfect impression of the mouth; but we do not want such an impression, if so, why is it we scrape the cast before making the die or vulcanizing the rubber plate? We scrape because we want good adhesion, and this cannot be had without giving the plate a heavier bearing on the softer part of the mouth, and we usually accomplish this by scraping the die on the yielding parts. This scraping is guess-work; the longer we have guessed and scraped the better will be our success. Some advocate the use of modeling compound for full cases; while this might give a good impression of the arch, I do not believe it can be depended on, as the muscles crowd the material away from the ridge in forcing the impression in place.

My method is to first take an impression of plaster; remove and dry off thoroughly; scrape sufficiently to remove the roughness; then take a sheet of modeling compound base-plate; warm and shape it nicely in the warmed impression; invert the cup over a lamp till the compound is quite soft; immediately insert in the mouth and press firmly to place; with a glass of cold water and syringe cool the compound; when set, remove from the mouth and pour the cast; by this method we get a cast that is smooth, easily removed from the impression, and which gives a good fitting plate without any need of scraping.

Dr. Wm. H. Steele, Forest City, Ia.

OXIPHOSPHATE COVERED WITH GOLD OR
AMALGAM.

Dr. W. E. Driscoll, Manatee, Fla.

Your editorial in the May ITEMS, "Oxiphosphate Covered with Gold or Amalgam," has been read with interest. I have often wondered at the silence in dental periodicals on this subject. From this silence one would suppose it an unknown process. Till this editorial appeared I had seen no description of the process in the journals, except what I contributed myself several years ago. I do not object to the plan you describe, yet I think I will continue to practice my own plan, which is as follows: For gold, I fill the cavity with the cement very carefully. When it is hard I drill the necessary retaining points in the cement, and make quite a thin covering of gold. With a good cement, properly managed, mere shells of enamel can be preserved so well in this way that dentists examining them will not suspect their condition, so nearly do they resemble teeth with the normal amount of dentine.

When a covering of alloy is used, I do not wait for the first application of cement to harden as you describe. Hence I apply alloy to the soft cement; you wait for it to harden. I wait for cement to harden when to be covered with gold; you apply the gold to the sticky cement, thus reversing conditions in each case.* I fill the cavity nearly full of cement and press in a block of alloy that has been condensed with pliers. This first piece is securely embedded in the cement, and with a smooth, round point I make a careful joining of the alloy to the edge of the cavity. I prefer the soft cement should be present at the edge, but I burnish the alloy solid to the edge, so as to press out all surplus cement. In this way I get a better joint or edge to the filling than if the cement had not touched that part. Then where the enamel is thin I thus prevent the alloy showing through, and I thus give the case the appearance of having never been so frail. I have not filled a cavity with alloy without cement lining, for four years past. In this way I fill a great many teeth where the pulps are badly exposed. And while I am about it, I will say I have never used anything to intervene between oxiphosphate and naked pulps, merely touched them with campho-phenique, wipe dry, and apply very soft cement that will take shape without pressure on the pulp to produce pain. I have teeth in my own mouth so treated under my directions, and know both sides of the question.

*I did not intend to so state it. I commence the covering of the cement with gold or alloy while it is still soft.—ED. ITEMS.

ANOTHER METHOD OF BANDING A LOGAN CROWN.

Dr. Thomas P. Hinman, of Atlanta, Ga., at the clinics of the Mississippi Association, demonstrated an original method of banding a Logan crown, without heating the crown for soldering the band. The unequal expansion of the large amount of metal in the Logan pin is liable to crack the porcelain, the metallic oxids formed in the process of heating, also changing the color of the crown. By Dr. Hinman's new method, the root having been prepared as though for a Richmond crown, an open-mouthed band is fitted to the root and trimmed as desired to fit under the gum margin. Having the little screw-press of the Hollingsworth contouring method, the crown is held in the flame and heated red-hot, and the portion fitting the root burned in the block of wood belonging to the screw press, and a hole burned or reamed in the wood to receive the pin of the Logan crown. The crown is then placed in the band, with the pin in the hole, and forced down in place under the screw of the little press. The press has been improved by Dr. Hinman, the block of wood being made circular, fitting inside of the ring forming the floor of the press, and a swivel put on the point of the screw so that the crown is not twisted round and out of position, relative to its adjustment to the abutment of the root as the screw is turned down.

This makes a very tight fit of band to crown, requiring no cement; the band is cut away on the labial surface, allowing no gold to show on the face, but with heavy burnishers burnished closely over the palatine curvature. This method is adapted to the six anterior teeth. For bicuspid, Dr. Hinman cuts a slight groove, with a corundum stone, all around the crown, pressing the gold of the band closely with the groove.

Dr. Hinman is also at work on bridge-work made entirely of Logan crowns, doing away with the gold backings which so mar the beauty of porcelain teeth, one of the strong points of the method being that repairs in the mouth can be made with great speed, ease and perfection, though he thinks repairs will rarely be necessary.

How some men strut about when they find themselves "professional men." In their bombastic and dictatorial manners they act as lords, instead of servants. They conspicuously exhibit their parchment, as though it signified their perfection instead of their a b c's. They treat their patients as inferiors, instead of thanking them for the privilege of serving them. Ah, humility is a great virtue, but egotism is a stumbling block over which many fall.

DR. A. C. HAWES, OF NEW YORK.

A committee of the Odontological Society say of this good man :

On the seventh day of April last, Dr. Arnold C. Hawes, one of the earliest and most esteemed members of the Odontological Society, entered into his final rest.

Soon after the formation of the Society he was elected an active member, and so continued till he retired from practice and took up his residence at his country seat in Connecticut. He then tendered his resignation and was made an honorary member.

Dr. Hawes was one of the founders of the First District Dental Society; its first Vice-President, and second President. He was one of the original members of the Dental Society of the State of New York, and for many years its Treasurer. He was among the first members of the American Dental Association, and for a time served as Treasurer of that organization.

Dr. Hawes was one of the most prominent and best respected members of our specialty; a man of sterling integrity, with generous impulses and candid manners. He was much interested in the work of our professional associations, and especially so in the Odontological Society. He was also an occasional contributor of articles for our dental journals.

BRIDGES.

Bridge-work has become a "Fad," and will in time become a source of annoyance to the maker and of annoyance, filth and disease to the wearer. There are so-called bridges stationary and removable, which are nothing but partial plates; either fastened (supposable) permanent or removable, they are all partial plates, which have been made since the dawn of dentistry.

W. A. Stevens.

[Dr. Stevens is not well informed. There are bad bridges as well as bad plates, because there are bad workmen as well as good workmen. I would advise Dr. Stevens to visit some of these good workmen, and learn of them how to do good work. They are found all over the country, and their work would convince him that he is in decided error. He would return home not only a wiser man, but with the means of better pleasing his patients, and adding largely to his income.

I am wearing a permanent bridge in my mouth made by Dr. Bryant, of 1344 G street, Washington, D. C., that I would not take a thousand dollars for. It is as easily kept clean in every part as my own teeth, and is as useful as my own teeth.—ED. ITEMS.]

TO MANIPULATE DR. WELCH'S OXIPHOSPHATE.

This process is so similar to the manner in which many other cements should be used, that, perhaps, we may be pardoned for giving it here. There is, however, this difference: The above cement when properly prepared is extremely sticky, so sticky that it will adhere tenaciously to the walls of the cavity, thus barring out all possibility of future moisture, and insuring its much greater durability. It is, therefore, very good for setting gold crowns and bridge-work.

The tooth must be isolated, and the cavity prepared, as for gold.

The powder and fluid should be placed separately on a glass slab, and the cavity dried thoroughly and kept dry during the whole operation of filling. Remember, the cement will not adhere to the walls of the cavity as it should, if any moisture is present. When all is ready for its immediate introduction, mix the powder to a creamy dough, and press it into the cavity as quickly as possible, and do not disturb it while it is hardening. It will then harden with a bright, smooth gloss, so hard that it will turn the edge of a knife blade, and it will be so durable it will resist disintegration for a long time. Do not file or scrape the surface, but have it so nicely contoured and finished while quite soft that it will be perfect in shape. Cover with a thin coating of paraffine dropped from a hot spatula.

DENTAL EDUCATION.

Dr. J. B. Askew, Vicksburg, says: We advocate not a higher education than the present curriculum of the Dental College, but a broader foundation on which to erect the superstructure. With our present system of public schools and high schools, there is no excuse for illiteracy among those asking admission to professional schools. With a higher standard of matriculation, we would have applicants of a higher grade. Many who now seek the other learned professions would seek our colleges, while some who would be deterred from applying would doubtless do better in other vocations.

Dr. J. Y. Crawford says: The connection between dental education and dental legislation and thence dental ethics is intimate. Dental education and dental legislation both point to a higher standard.

What is most wanted is the education of those who need the services of the dentist. That is needed as much as the improvement of those who want to practice dentistry.

The colleges cannot do a young man a greater injury than to take his money and admit him to matriculation when he has neither the mental training nor the ability to comprehend the curriculum. If he manages to get through, he is turned out to do injury both to himself and to others. Better stop him before he enters, than let him barely get through, step by step, and finally graduate, only to go back home to be kicked out by the first board he appears before.

Dr. Frank Holland thinks a thorough English education all that is needed by the dental student; text-books, lexicons and dictionaries supplying all the information necessary about the foreign and dead languages. As to Latin as a perquisite to matriculation, there are very few men in the dental college faculties competent to examine the student in that language.

Dr. Holland thinks it absurd for some States to charter a college with power to confer diplomas, and also to create a Board of Examiners which can refuse to recognize its diplomas.

Dr. W. E. Walker, Bay St. Louis, thinks the degree conferred by the dental college is not sufficiently expressive, and the license conferred by the State Boards is not sufficiently comprehensive. The practitioner of to-day should not be confined in name, as he certainly is not in practice, to surgical operations on the teeth. He thinks a broader and more comprehensive title and degree is needed in view of the advanced practice of to-day, and suggests for consideration "S. D.," *Stomatologie Doctor*. A degree for the acquirement of which M.D., as well as D.D.S., shall be a prerequisite.

MAKING AN AIR CHAMBER.

C. J. Hand, D.D.S., Romeo, Mich.

FORMING AN AIR CHAMBER FOR UPPER DENTURES.—It is my rule to *carve* it in the impression, following the form of ridge. The pouring of the model gives the air-chamber mold in plaster; unequalled for obviating all the accidents consequent in use of lead or other metals pressed on the model. The rubber can not flow under and prevent close adaptation of plate to the roof of mouth. A small spoon excavator run around the edge of air-chamber will give a little raised ridge on the plate that greatly facilitates a speedy suction. This style of chamber can be made very shallow, which I consider the best.

AMALGAM AND HOW TO MANIPULATE IT.

Dr. A. C. Hewitt, Chicago, Ill.

The cavity should be prepared as conscientiously as for gold filling, sterilized and desiccated. To aid in doing the latter readily the following may be used as dentinal desiccant:

R.—Alcohol (pure)..... fl. 5v.
 Chloroform..... fl. 5ijj.
 Beta naphthol..... grs. v.

M. Apply to flood the cavity thoroughly and evaporate with warm or heated water.

I use the term "desiccated" in the sense of the definition given by Dunglison (Med. Dict., 21st edition), *i. e.*, "draining, drying." Not only should salivary moisture be removed, but that lying in the tubules, the dentinal plasmasomes, and the unctuous film along broken enamel rods. I lay stress on this part of the work, for if moisture lies back of the imposed plastic, especially if the alloy contains copper, there will be oxidation and precipitation of salts to blacken tooth substance and invite influx of oral fluids.

Unless we realize how difficult it is to bar moisture from any place, we will underestimate the need of the care advised. Next, the surfaces to be covered in by the amalgam should be coated well with some resinous solution for two purposes. First, to bar moisture, and second to form a sticky base in and on which to grind particles of the alloy. For this purpose the following is what I have used with gratifying success:

R.—Sandarach varnish,
 Damar varnish.....āā fl. 5j.
 Alcohol (absolute)..... fl. 5j.
 Beta naphthol..... gr. v.

M. Apply as a varnish.

When the liquids have evaporated, leaving the resins as a lining for the cavity, the dentine and enamel should receive another coating, this time of amalgam burnished on to the varnish with a smooth-point amalgam plugger, flat-faced or "shot" pointed, till the cavity floor and walls take on a mirror-like surface. By thus burnishing the amalgam on the walls, every tubule and enamel interstice will be filled and brightened over.

The amalgam for this first coating may be well saturated with mercury, but only sufficient of the moist mass left to form a thin coating, all surplus possible being "poked" or burnished out of the cavity. From thence on, amalgam wrung through heavy muslin or chamois only is to be used; one layer after another burnished on to the preceding one, each added mass being as dry

as can be and cohering to the preceding one. If free mercury is thus brought to the surface of the plug, it should be "poked" or burnished out before another dry mass is added. Keep the growing mass dry. Thus build till the cavity is "rounding full," care having been taken that every undercut, fissure, nook and corner is densely filled, not with free mercury, but with the alloy. When the cavity is more than full, "rounded over" like a bushel of potatoes in a basket, coax the surplus mercury to the highest point by gentle pats or tapping with the plugger, and while thus atop, absorb it (free mercury) with tin foil No. 4, rolled into balls, or what is better, "bricks" of Watt's crystal gold No. 2, freshly annealed in a lamp flame. When the free mercury is thus disposed of, the surplus amalgam is to be burnished down to a proper level with a hand-shot point, or a steel "Herbst" point in an engine hand piece, rapidly driven, moving the instrument from the center toward and over the enamel borders. Thus the line of free mercury, always tending to cling to enamel border, will be taken up and carried off by the dryer surplus portion of the filling. Before removing the dam, varnish the plug. In mixing the amalgam, the bare palm of the hand and the bare finger should never be used. Enough oil and moisture, from a bare palm, can be worked out to saturate an ordinary sized mass for a filling. Dry the cavity; keep it dry. Prepare the amalgam free from oils and water; pack densely; absorb surplus mercury. At a future sitting, polish the filling. If good alloy is used and this care is taken in the manipulating, but few workers will live long enough to see the need of a repair.

Of course, some cavities can only be filled "submarine." Then try gutta-percha till above high-water mark.

A simple and easy method of abstracting and cleaning the teeth from vulcanite rubber is, first put the teeth in dry plaster on an iron spoon, covering the teeth with it. Place the spoon with its contents in the fire and let it remain till the plaster becomes red-hot, then withdraw the spoon from the fire, leaving it to cool, which occurs almost immediately. Then remove them from the plaster, and the teeth will be found to be perfectly clear and uninjured, as when received from the manufactory. I have also used this method with vulcanite mounted cases of two and three teeth. No trace, whatever, of any rubber adhering to the teeth. The teeth also become firmer by being annealed.

Dr. Berhard, Bath, England.

HINTS AS HELPERS.

Dr. J. E. Davis, Columbus, O.

A common hypodermic syringe is superior to an expensive abscess syringe in forcing medicine through dead teeth with fistulous opening; simply press a pellet of soft unvulcanized rubber in the tooth cavity; thrust the needle through this in the canal; hold the rubber pellet in place, and you can get all the pressure you want to force medicines through the canals.

A hand wire bur cleaner is good to clean the palatin surface of a rubber plate. It polishes the surface and takes the plaster out of the irregularities.

You can make splendid polishing wheels and cones at a cost of less than one cent each by getting a piece of heavy packing, made of rubber and ducking, at a steam-fitters; with a sharp knife cut in sizes to suit, and finish by turning down in a lathe; sole leather can be used in the same way.

Have your patients use plenty of tooth powder. I tell them they can not cleanse their teeth without a dentrifice any better than they can cleanse their hands without soap. I get the following formula: I get 4-ounce bronzed boxes at about one cent each by the gross. You can get labels at a small expense; thus you see you have large 4-ounce boxes of the very best tooth powder nicely put up at a cost not to exceed seven cents per box. You can afford to sell them for twenty-five cents each, and insist on a liberal use of it by the patients, as it is not very expensive:

R.—White castile soap.....	1 part.
Carb. magnesia.....	1 "
Calc. carb.....	10 parts.
Pulverized sugar.....	1 part.
Sea-shell or cut fish bone.....	½ "
Orris root.....	2 parts.

Flavor with wintergreen.

I find that metal polishing strips cut in widths to suit are better than wire or tin foil for measuring teeth and roots to band. It is just hard enough to work nicely, and soft enough to pinch together perfectly with a pair of Howe's curved pliers, which are indispensable to a crown- and bridge-maker.

One great failing of legitimate practitioners is failure to educate the public through the press to properly appreciate the value of their teeth, and the superior skill and reliability of the legitimate practitioner as compared with so-called advertising quacks, or

those who use space liberally in the newspapers in an unprofessional way.

Teach the public through the newspapers, or otherwise, the following dental axioms:

You can put it down as a fact that good workmen never charge lower prices than everybody else, and they do not have to go hawking their wonderful skill about like a street fakir. Good dental work speaks for itself.

Keep it in mind that it is skill and not material goods you pay for when you employ a dentist. Poor skill, like poor goods, takes lots of hurrah and blowing to make it go.

The old saying, "Ignorance ever flaunts itself, while true science and knowledge are ever clothed in modest dignity," is nowhere better illustrated than in the dental and medical professions placing themselves individually before the public.

A real meritorious article goes without much flourish of trumpets; thus it is with dentists and their work.

Better than bridge-work is to save your own teeth. In most cases it is only a question of good dental work and proper care.

The best work is done by the artist who quietly sticks to his business, doing his own work and depending on it for his reputation, or the one who buys his materials by wholesale, depending mostly on hired help and flourish of trumpets to rush through much work.

Better than fifteen years' guarantee is to have confidence that your dentist is educated in his profession; honest in his work and advice, and has the good of his patients in his heart.

If your teeth are in a very bad condition, do not expect to get them repaired for a small sum if it is well done. After teeth are in an aching condition it is three times the work and expense of small simple fillings.

A new cause for divorce should be instituted, *viz.*: When a husband or wife refuses to keep the teeth and mouth clean and free from decay and filth.

J. E. Davis, B.S., D.D.S., Columbus, Ohio.

DEATH FROM A LOCAL ANESTHETIC.

I had a little experience with a local anesthetic I got out of the *ITEMS* of November last, which, I think, should be given to the profession:

R.—Cocain.....	8 grs.*
Antupyrin.....	12 "
Aqua dis.....	3 ℥.*

*I think there is four times too much cocain in this formula.—ED. *ITEMS*.

I had used it, perhaps, twenty times before with bad effects. The patient was a gentleman of thirty years and healthy. I injected about four or five drops in the gum around the right lower third molar root, and lifted it with elevator, then removed it with forceps. I thought he fainted, and I lowered the chair to a level, and dashed water in his face and eyes; not a muscle moved; eyes wide open and face ash pale. I then called Dr. B., whose office is across the hall; he injected nitro-glycerin $\frac{1}{100}$ gr. two or three times, and strychnin $\frac{1}{30}$ gr. twice, and gave whisky hypodermically, and to drink, after he became conscious. I also applied nitrit of amyl and aromatic spirits ammonia on napkin. It was threatened fatal syncope, caused by cocain on the heart. For about thirty minutes he was apparently dead; then he was covered with the most profuse perspiration I ever saw. In about three-quarters of an hour he was able to sit up, and in an hour got up, and went home. In my experience one in twenty cannot bear cocain. If the physician had not been in his office I believe my patient would have died, for it was all we could both do with the most powerful heart stimulants.

J. H. A. Miller, D.D.S., Alderson, W. Va.

TO KEEP HAPPY, KEEP EMPLOYED.

To keep happy, there is nothing like keeping employed.

"Satan finds some mischief still
For idle hands to do."

A busy life never rusts. It is the idle who are short-lived, puny and miserable; and they are sure to be fault-finders, selfish and unhappy. This is so, clear into old age.

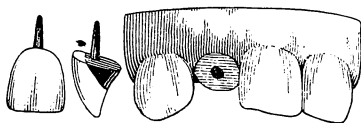
I have sometimes thought I would get out a patent for happiness in old age. But it would look better to wait till I knew the virtue of it by experience. But the trouble is, as I approach old age with my secret, old age seems to recede; for it does not seem to be so much the result of years as condition. I thought sixty would do; then sixty-five, but now in my seventieth year I am still looking for old age. For fear my receipt will spoil, or that some one will spoil for the want of it, I will give it away free: *Keep busy and behave yourself.*

Dr. E. S. Rinehart, who has recently become a citizen of Mexico, writes us that to reach his destination, after leaving railroad travel, he was obliged to travel with pack mule with all his dental outfit for six days. One of his first pieces of work, when finally at his destination, was a gold bridge for the famous Col. Shephard, formerly of Washington, D. C.

A CROWN IN THIRTY MINUTES.

Dr. De Witt Barker, Brooklyn, N. Y.

At the April meeting of the Second District Dental Society of New York, Dr. F. T. Van Woert showed a new "hurry" crown, and demonstrated that a perfect fitting crown could be made and placed in the mouth in less than thirty minutes. A Logan pin is first fitted to the root and the protruding end split, and the ends bent down close to the end of the root, forming a T-shaped pin; with the pin in the root an impression is taken, the pin withdrawn from the root and replaced in the impression and a plaster model obtained with the pin in place; a plain rubber tooth is ground to fit, placed on the model and held with the fingers while fusible metal is poured or fused with a hot spatula on the palatine surface, and filling up the space between the pins and end of the root; while the metal is still soft, a piece of chamois is placed over it and quickly pressed with the thumb. The completed crown is removed from the plaster, surplus metal filed off and polished on the lathe, and it is ready for setting.



Dr. Van Woert does not put this forward as a permanent crown but merely as a temporary affair, but the fit is so good and the attachment so strong it seems as durable as some more elaborate crowns.

In my own practice some variation of details have been found advantageous. It will be observed that there is no union between the fusible metal and the pins—it merely flows around them as vulcanized rubber does. I use a German silver pin with a piece of German silver plate soldered across the end like the head of a tack; the pins in both root and tooth are touched with a saturated solution of zinc in hydrochloric acid, and then when the fusible metal is poured, it solders itself solidly to both. After the German silver pin is filed to fit the root, it is cut off one-quarter inch from the root, this extra length is a convenience in placing the pin in the impression and can be cut off after the model is obtained.

CURRENT THOUGHTS.

EXTRACTION OF DISEASED TEETH.

Dr. V. C. Bell, in Mouth and Teeth.

Extraction is an ultimate remedy, and should be resorted to in extreme cases only. If people would give to their teeth the attention that is their due, there would be no occasion for the forceps, except in very rare instances. It is because of ignorance, or inexcusable carelessness, or the unconquerable dread of dental operations, that gives necessity for the forceps. Timely care might preserve even those which are naturally weak and bad.

But, through neglect, cases arise which imperatively demand extraction. Let us consider some of the consequences of neglect.

Abscesses, or gumboils, are collections of pus, or putrid matter, due to infection and inflammation of the tissues surrounding the roots of diseased teeth. These may produce many dangerous results, among which are :

LOCKED JAW.—Sometimes a severe abscess is caused by diseased molars or wisdom teeth of the lower jaw. The nerves become so irritated that they are finally paralyzed, and the muscles remain in a contracted condition. They cannot perform their office, and the sufferer is unable to open or close his mouth. When this happens, the patient is said to suffer from locked jaw. It should be understood that by this term is not meant tetanus, or spasmodic contractions.

NEURALGIA.—Intense neuralgia of the eye, the ear, or the entire side of the face, is frequently produced by the pressure of an abscess and the irritation due to a diseased tooth. All the nerves which supply the eye, the ear, the face and the teeth, are intimately connected through their terminal filaments, and any special irritation of one may be communicated to and effect any of the others.

The oculist and aurist recognize that the eye and ear may be affected by diseased teeth. Often, before proceeding with their work, insist that the patient have his teeth put in good condition.

NECROSIS.—Death of the bone frequently results from ulceration. When pus is allowed to accumulate in large quantities, it may burrow between the bone and the periosteum, or membrane which envelops the bone, and which gives to it nutrition and vitality. This membrane being severed from the bone, the latter dies from lack of nutrition, and from the violent inflammation.

EYE, EAR AND NOSE.—These organs are very often affected by diseased teeth. Over the molars, in each side of the upper jaw bone, there exists a cavity, the roof of which is formed by the floor of the orbit, its inner boundary being the wall of the nose, and through which there is an opening into the nostril. The floor of this cavity is formed by that portion of the jaw bone which holds the roots of the molars, and in which one of them occasionally penetrates. The walls of the cavity are thin, and are lined by a very sensitive membrane. Any serious disease of these penetrating molars, such as inflammation and suppuration, may extend in this cavity. Pus may accumulate in such large quantities that it will ooze out through the opening that communicates with the nose.

Thus may be seen why, when one suffers from a constant discharge from the nose, it may be due to a neglected tooth. Again, if the accumulation of pus is very large, it may press against the floor of the eye-ball, and either displace the eye or cause partial or complete blindness, or it may break through the bone and discharge on the face, leaving an ugly scar. At the very least, the continued discharge, even though it may not find its way to the surface, makes the patient a constant source of offense, both to himself and those who surround him.

Cases are reported in which tumors caused by diseased teeth have developed to such enormous size that they plugged up the nose, dislodged the eye, and even broke down the wall of the cavity and penetrated in the brain.

Again, whenever a decayed tooth is in close proximity to a sound one, the latter will ultimately be affected, for wherever there is decay, there we find acids and microbes, which in their action are very destructive to the teeth.

Every day that these teeth are permitted to remain in the mouth but aggravates the condition, and renders their inevitable fate, extraction, more and more difficult. This is particularly the case with regard to the molars, which, as a rule, have several roots, all connected by the crown. When decay has destroyed the crown, the roots become separated, and must be extracted singly. Sometimes the patient attributes this difficulty to lack of skill on the part of the dentist, and perhaps even institutes legal proceedings for malpractice against men of acknowledged skill. These suits, though almost invariably unsuccessful, have in many cases blighted the reputation of the practitioner, for suspicion easily attaches to professional men, and clings to them with fatal tenacity.

We may thus see the importance of an early extraction of

such badly-decayed teeth. But many people shrink from the operation, either by reason of their ignorance, or because of the misrepresentations of their friends, or through a fear of the pain.

FIFTY YEARS IN THE LABORATORY;
OR,
THE EVOLUTOIN OF THE DENTAL LABORATORY AS
I HAVE SEEN IT.

L. P. Haskell, Chicago, Ill.

What I shall have to say to-day will be largely personal history, as it will relate to my personal experiences of half a century.

Were the graduate of the dental college of to-day to be placed in the dental laboratory of fifty years ago, and attempt to construct a denture as then made, he would throw up his job, for such is the great advance made in tools and appliances, materials and methods; he would consider it almost impossible to construct a denture by the old methods.

In January, 1845, I entered on my duties in a dental office in Boston, or rather its suburb, Chelsea. At that time, no one considered it necessary to obtain his dental education in a college; in fact, the only one in existence was the Baltimore, then in its infancy, and which remained solitary and alone for many years. A large proportion of dentists picked up their dental knowledge here and there, with the doors of the operating rooms and laboratories largely closed against them; no dental journals; text-books crude; no dental societies, and very little intercourse between the members of the profession.

There was, however, an absolute necessity for a knowledge of working metals, as there were no dental depots to resort to for supplies of gold and silver plate and solder, so the dentist must learn to melt gold, refine his old plates and filings, roll his plate, and make solders.

As the average dentist was not successful in saving teeth, especially if badly decayed or abcessed, the necessity arose for cultivating skill in the construction of dentures, and as they were all of metal, it was not every one who made a success of it.

In taking impressions common beeswax was the only material used. The impression-cups were made by the tinsmith. My preceptor was the first dentist in New England, so far as I am

aware, to take an impression in plaster, but it was years before it came in general use, and the material was of an inferior quality.

My first experience in the making of dies was in the use of tin. To do this the counter, or as then termed, the female die, was made first, by plunging the model, perfectly dry, in the lead. The removal of the model necessitated its destruction. A rim of several thicknesses of paper was placed around it and the tin poured in it. After a time, type-metal, zinc, and brass were used. After I had been in practice for myself two years, I was led to try what was then known as "Babbitt's anti-friction metal," then just introduced into this country for machinery bearings. This, with some slight modifications I have used ever since, finding it the only alloy that has all of the requisite qualities for a dental die, and has greatly simplified the fitting of plates.

At this time, or at my entrance on the stage, spiral springs were an absolute necessity for retaining an upper plate in place, and so continued for many years afterward in the practice of many dentists, and I am informed are still considered a necessity in England. My preceptor was the first dentist in New England who first constructed a suction-plate, in the year 1844. If any one knows of any attempts prior to this I would be pleased to be informed.

The impression was taken in wax, the die made of tin, and the result very gratifying. To test the suction, he soldered a hook to the center of the plate, placed it in the mouth, told the patient to suck it up, attached a wire to it, and suspended thereto an ordinary water-pail filled with water, and placed other weights on that. These plates were fitted to the palate, the "air-chamber" known as the Gilbert, being introduced later, came in general use; and still later what was known as the Cleveland or soldered chamber. I have, however, dispensed with all forms of air-chambers for twenty-five years, deeming them superfluous, in fact, in many cases highly detrimental.

The carved bone and ivory teeth had been displaced by porcelain teeth. The first I used of these were Alcock's, made in Philadelphia. These were followed by Stockton's, which were an improvement on the former. A few years later his nephew, S. S. White, who obtained his knowledge of the business from his uncle, established a factory under the firm name of Jones, White & McCurdy, and soon produced an article far superior to any thing previously made. In fact, as regards translucency and delicacy of coloring superior to any thing now made. But afterward, to increase the strength, these features were in a measure lost, as the increase of siliceous and clay made them more opaque.

Up to this time all dental goods were sold by druggists. This firm entered in the manufacture of other dental goods, and established dental depots in Philadelphia, New York and Boston. They kept no supply of plate and solder, and the dentist, if he did not make it himself, resorted to the manufacturing jeweler for his supply.

Every tooth was soldered to the plate, and skill was required in selecting, grinding to the plate, backing and soldering full sets of gum teeth, an experience which few practitioners of to-day have had.

The use of gas for soldering was not known till a later date, and the alcohol lamp and mouth blow-pipe were the appliances then used.

Lathes were of rude construction. Emery wheels, and not coarse at that, were used for grinding. What a contrast to the modern dental lathe, electric motor and carborundums. The appliances for finishing were few and rude. Think of the various appliances used on the dental engine for finishing and doing fine work.

At the time I commenced the business, carved block teeth were being introduced. These, of course, were carved for each case, and for eleven years I was engaged in carving and mounting for our own practice and for the profession in the New England States.

My first experience in the laboratory was the preparation of the material, calcining, breaking in small pieces and grinding in a quartz mortar, quartz and felspar to an impalpable powder. These, together with clay or kaolin and coloring matter of the oxids were then mixed ready for carving. Oxid of gold and tin were used to produce the flesh color of the gum enamel.

Then there was the management of the furnace, constructed of fire-brick, and soap-stone covers and stoppers, with two or more muffles. The baking was done in the latter part of the day, and running sometimes in the night quite late. The work was not examined till morning. Carving, biscuiting, trimming, putting in the platina pins, enameling and baking of two sets was considered a day's work.

A considerable number of dentists learned to do this, but with varying success, as it required skill and taste which all did not possess. I instructed the fathers of quite a number of the present generation.

In 1852 an agent of John Allen's came to Boston to sell office-rights for the use of his new patent, since known as Allen's Continuous Gum Work. We purchased an office-right for \$150, and have continued the use of it to the present time. For full

sets this was the greatest advance made in prosthetic dentistry, and remains to-day the most perfect denture ever devised, for strength, durability, naturalness of appearance, healthfulness to the membrane and cleanliness.

Soon after the introduction of vulcanized rubber, dentists in various parts of the country made a combination of continuous gum and rubber, which had its run for several years, and was then abandoned. One dentist who made it for several years was afterward asked his opinion of it, and replied, "It was like the devil's tail painted blue, more ornamental than useful." The serious objection to it was like some other combinations, it made the repair too expensive.

Like some other "discoveries" this method has been discovered, or re-discovered, several times since, patented and presented to the profession as something original. The lesson to be learned from this is, that no denture should be put in the mouth which cannot be readily repaired at a fair expense.

I think it was in the year 1852, a dentist named Slayton came to Boston to introduce a method of inserting dentures on gutta-percha. I have in later years made use of it in what I call "emergency" work. As for instance, a physician came to my office at 5 P. M., had several teeth extracted, impression taken, a plate of gutta-percha formed on the model, teeth arranged, and fastened to a rim of the same material by heat, and the gum contoured with a hot spatula; at 7.30, two and a half hours, he was eating his dinner with his new teeth at a restaurant. Also a temporary lower plate, made in the same manner in three hours, while the patient waited, lasted one year.

Also about the year 1852, a dentist named Levett came to Boston to introduce an enamel for gold plates. I was wearing a small gold plate and had it enameled, but in a short time it cracked off. It convinced me that enamel which could be baked on gold plate was merely glass, and not fit to be worn in the mouth. This is also one of the "inventions" which has been "discovered" several times and found worthless.

About the same time, or a little earlier, Dr. Loomis, of Cambridge, Mass., patented the porcelain plate, which has been improved on to some extent, and is still used by a limited number of dentists. A first-class, artistic denture cannot be made by this process, and is difficult to repair.

I think about the year 1855, Dr. Blandy, of Baltimore, introduced a metal he called "cheoplasty," for making cast plates. It was similar to Watt's and Weston's metals composed of tin and bismuth.

In 1858, then in business in Chicago, associated with Dr. Allport, I made a visit to Boston, and calling on an old friend, Dr. J. A. Cummings, he took me aside and showed me, in a confidential way, a vulcanized rubber plate, for which he said he had applied for a patent. The outcome and history of which you are familiar, with some to your sorrow in the contest with Bacon.

The introduction of this material caused a retrograde movement in prosthetic dentistry, and though it has its merits, has been a detriment to the profession, for so simple are its methods that it has enabled a host of incompetent men to foist themselves on the community, and also led many of the better class of dentists to abandon a class of work far superior, simply because the work was easier, and could be done by mere novices in the laboratory.

Dr. Allport has well expressed the idea in an address before the Boston Academy of Dental Science:

"He who has but moderate ideas of symmetry, harmony of expression and color, is constantly pained by the lack of that artistic selection and arrangement of artificial teeth which serves to restore to the face the shape and expression left on it by the Creator, the absence of which in artificial dentures stamps him who should be an artist, an *artisan—a mere mechanic—a libeller of the soul—a deformer of the human face divine*. That mechanical dentistry should have very largely fallen in the hands of this inferior class of practitioners will hardly be wondered at by those who have watched the history of this branch of the practice. For so simple are the modes of attaining tolerable mechanical results with the methods now usually employed in this department, that a high order of appropriate talent is, at present, seldom found devoting much time to it."

The most serious objection to the use of rubber is found in the fact that the retention of undue heat causes constant change in the alveola process, the exceptions to which are very rare.

In the early 60's Dr. McClelland, of Louisville, introduced a material for plates which he termed "Rose Pearl," a preparation of gun-cotton and camphor. This was followed by an improved article called Pyroxolene, which made a very handsome plate, but proved a failure; I made several plates of it. Next came celluloid, a decided improvement on the other, and which has continued in use. I used it instead of rubber for four years and then abandoned it.

One of the more recent inventions has been the "Electro-deposit plate," professedly gold, but only a silver plate with a very thin deposit of gold on its surface. It has very serious

objections, and those who have used it, so far as I know them, have abandoned it.

Though aluminum has been used to some extent for plates for many years, it did not prove a success till recently, on account of the difficulty arising from the presence of specks of iron in the metal, which rusting produced holes in the plate. It makes a firm and more rigid plate than any other metal and is easily swaged. I find the secretions do not affect it at all. By using the loop-punch a firm adhesion of the rubber is obtained.

Ever since the introduction of rubber and celluloid there has been a set-back to prosthetic dentistry till the introduction of crown- and bridge-work, which has made it necessary for the dentist to learn the use of metals, so that to-day prosthetic dentistry occupies a higher plane than ever.

Dr. Land is entitled to credit for the introduction of the "jacket crown," etc. But far greater is Dr. Parmly Brown's method of porcelain crowns and bridges, which seem to me the *ne plus ultra* of prosthetic work, its two important features being the non-mutilation of teeth and showing no metal in the mouth.

The introduction of porcelain work to such an extent has necessitated the invention of gas furnaces, so that one improvement after another has developed some almost perfect furnaces. The Parker, an open-flame furnace, has done most excellent work, followed by the Downie with a platinum muffle which seemed almost perfection, till recently Land has brought out a furnace, the "Revelation," in which coal oil is used. In this furnace no bellows is needed, simply a good draft in a chimney. The high fusing bodies have been fused successfully. I am using it satisfactorily.

Though there has been great improvement in the manufacture of teeth there is still room for more. One serious fault is the unnecessary multiplication of molds, sometimes done to satisfy the whim of some dentist, but oftener because the manufacturer fails to realize the real necessities of the case. In the S. S. White catalogue of teeth are nearly one hundred molds of upper plain bicuspid and molar rubber teeth! Many of them so near alike it is difficult to distinguish between them; others so unshapely it is a wonder any one finds a use for them; but the most serious fault is found in the fact that even in the longest of them there is little porcelain above the pins. In grinding to articulate, this small amount of porcelain is often ground away, or so nearly so that what is left is broken off very soon. Not only this, but the rubber gum comes so near the crown that it is unsightly. In nearly all of these teeth the pins can be placed in a position to give longer cusps.

The company, however, have been making some new molds in accordance with these suggestions.

There are too many molds with too little masticating surface; too often the lingual cusps of the upper teeth are too long; they should be shorter than the buccal.

In plain upper rubber bicuspid and molars twelve variations of molds would be all that is necessary, and consider how this would simplify the selecting of teeth by the dentist or the depot clerk.

These same faults exist to a variable extent in all makes of teeth. I would very much like an expression of opinion on the subject by dentists.

In the teaching of prosthetic dentistry in the colleges there are serious faults, the reasons of which are threefold.

1st. Too much of the student's time is occupied in the lecture-room, in the endeavor to teach him methods which can never be comprehended till he sees them done or does them in the laboratory.

2d. In the laboratory he is taught in classes, and not enough individually, and these classes so large as to be unwieldy.

3d. The demonstrators are too often inexperienced men, graduates perhaps of a previous year. In no place in a college is wide experience more necessary than in the laboratory.

Ohio Dental Journal.

CROWNING BADLY-DECAYED ROOTS.

W. C. Logan, D.D.S., Astoria, Oregon.

How often in the course of practice are we confronted with roots of teeth decayed far beneath the free margin of the gum, and perhaps one side extending well down in the alveolus. After removing the decay we find but a mere shell to work on, and the question is, Shall we extract or attempt to save the remnant? When the patient wants the tooth saved, if possible, then it is our duty as dentists to devise some means of putting them in a condition of usefulness. In the following I will describe some of the means I have employed:

I give my treatment of a right upper second bicuspid, in otherwise an almost perfect set of teeth. The distal margin was decayed well down in the alveolus. After pressing the fungus gum aside the decay was removed. On nearing the walls of the root the operation was quite painful, showing how little dentine was left. After the decay was removed, a piece of gutta-percha

base plate was softened, dipped in campho-phenique and carried to the apex of the canal, followed by a pledget of absorbent cotton, and the patient told to rest a few minutes while preparations for the next step were taken—that was in getting ready cement, alloy and mercury. The root was then thoroughly dried by hot air, the amalgam mixed and held in the hand while mixing the cement, which was quickly carried to the root and pressed well up to the gutta-percha, followed immediately by the amalgam, which was built down about one-sixteenth of an inch below the gum. After the amalgam had set enough to permit, a corundum disk was used to bevel the edge of the root and amalgam, and a gold crown adjusted the next day. This was three years ago, and it is as sound now as it was the day it was put on. The patient uses it the same as the other teeth and has no trouble with it.

Pacific Coast Dentist.

GRACEFUL GOODNESS.

“I love that beauty should go beautifully,” sings Alfred Tennyson. It is desirable that goodness should be graceful; but it is not always so. There is so much of human infirmity in the majority of good people that even their goodness is far from being graceful. The beauty of holiness is not always clearly visible. The Divine life within, like the Shekinah in the holy of holies in the Jewish tabernacle, is often veiled from external observation by a shaggy covering.

Even the goodness that is sadly marred by many an imperfection may be fruitful. There are some fruit-bearing Christians that are as gnarled and crabbed as many an old apple tree, but who, like the apple tree, have sufficient vitality to bear good fruit. Nobody thinks of them as saints, and yet their sturdy, if unattractive virtues, are a real blessing to the world. The real good in average Christians does not usually make a very lovely external appearance. Conscientiousness is often censorious, and devotion sometimes seems dismal. The uprightness of many is as rigid as an iron telegraph pole, instead of being graceful like the trunk of a pine tree, which, however straight, has a touch of vital grace and is crowned with beauty. The unlovely saints are a great multitude; they are entitled to our charity for at least this reason: that most of us ourselves are of that sort.

The spiritual beauty that is so rare is usually the result of a combination of attractive natural virtues, good breeding, intellectual culture, and a life-long religious habit, the whole inspired,

crowned and illumined by a deep spiritual experience. Sometimes, however, grace works this wonder when most of the natural conditions are lacking. Some of the loveliest saints that we have ever known were suddenly transformed into spiritual beauty from open depravity. Abundant spiritual life is after all the largest factor of the beauty of holiness. The report of the meeting of Christian workers, held in Boston year before last, contains two pictures of a woman who was saved from a vicious career; the first taken three months after her conversion and the second one year later. In the first her face is to some extent still haggard and downcast, with heavy shadows on it that seem almost sullen. The second is fairly beautiful; the shadows have all fled, the eyes are bright, and the whole face is luminous with intelligence and joy. In this case greatly increased beauty of the countenance at least was rapidly developed by the inward spiritual transformation, and doubtless the change in the beauty of the conduct was still more striking. It is nevertheless desirable that the religious life be entered on in childhood, and that natural virtues should be inherited. Good blood and good breeding are of priceless value. Those who have been great sinners may become not only real saints, but very lovely saints; but in most cases that goodness is most attractive which began in childhood and has grown in strength and beauty with every passing year and day.

The goodness of Christ was always graceful. In the lives of the noblest men and women there is manifest a strain of effort to live holily, and there is a constant sense of human infirmity. There was no effort in the goodness of Christ, and there is nowhere manifest in Him the slightest trace of human infirmity. Perfect purity, perfect truth, perfect humility, perfect unselfishness, were natural to Him. His spiritual strength was always beautiful, and His spiritual beauty was free from human weakness. He possessed a complete human nature and the tenderest human sympathy, but sinlessness was as natural to Him as sinfulness is to the race with which he allied himself by His incarnation. The gentleness of His majesty, the loveliness of His innocence, the Divine dignity of His humility, the joy of His self-sacrifice, are illustrations of the infinite fullness of His spiritual life.

“Our truest steps are human still;
To walk unswerving were Divine.”

Jesus trod the path of absolute perfection, with steps unflinching and graceful, but man's path is at best crooked, yet may be so guided as to show divinity in his steps.

Exchange.

THE TURNING LATHE IN THE LABORATORY.

G. W. Woodborne, Urichsville, Ohio.

The turning lathe is as useful in the dental laboratory as the vise and anvil, if not more so. By it, instruments and tools can be repaired and in use by the time that you could have them ready to send away; and sometimes you can make many things that will suit you better than those you can buy. It gives you a chance to put some of your (original) ideas in practice, as well as those that are suggested by others.

The kind of lathe depends on circumstances, but like other tools, the better and larger range of work that can be done, the better are the results. I have a simple hand lathe without any screw cutting device. My turning tools for wood, are ordinary wood tools; for iron, brass or steel, I use gravers and three-cornered files ground to proper points. I have chased screw threads by hand, but would advise all to get a geared lathe.

When you have a broken plate to repair, you can put an inverted cone-shaped bur in the chuck and drill out all of the necessary parts in less than half the time it takes to file it out. Holes can be drilled in anything. Solder can be milled off old gold plates, or out of crowns. Any piece of steel can be put in the chuck, and turned or filed down to suit you. You can make all of your polishing lathe chucks out of wood or steel, for your sand-paper, felt, corundum; in fact, all of your grinding and polishing pieces, all handles, etc.

After you have been the owner of a good lathe for a short time you will think it indispensable. It will take the place of the boring engine in that class of work that takes side pressure, and is such a detriment to hand pieces. Try it. *Ohio Journal.*

How often do patients present themselves to the dentist with teeth so filthy that one recoils with disgust and aversion at beholding them. Add to this a number of abscessed roots, or decayed teeth with large cavities in which decomposing food remains for weeks and months, and you will no longer wonder why sometimes the breath of an individual is so offensive and foul that his presence is unbearable. Wherever there is decomposition of organic matter, there innumerable colonies of microbes, the germs of disease, are generated. Through a mouth thus infected, can any individual pass his food and yet wonder why he suffers from indigestion?

V. C. Bell.

AMALGAM.

About 1882 I accidentally hit on a method of inserting amalgam fillings that has given uniformly successful results. By that I mean, after waiting a week or so, the amalgam could be finished off properly, and it would remain as perfect and with as bright a color as a gold filling. At that time, while using the Wolrob cylinders, some of them unraveled, and in endeavoring to make use of these for removing excess of mercury in amalgam fillings some of them would disappear under my eyes, and that was the end of them, and I never saw any more of those particular unraveled cylinders. I had tried before that to incorporate gold in the amalgam, but the gold I used was No. 4, and I never was successful in accomplishing it. It would eventually strip. Since then I have used a specially thin gold-foil (about No. 1), placing it on an annealing lamp and using the proper judgment, so as not to get too large a percentage of the gold in the filling,—a necessity which I have appreciated by experimentation, that too large a mass of gold will unquestionably produce a softer filling. You can not only remove all the excess of mercury in this way, but you can later finish the filling the same as one made of solid gold. I would present this method to you because some of the gentlemen seemed to imagine that it was impossible to incorporate any of the gold so it will remain. I have never seen any gold that was introduced thin enough at the outset that did not become an incorporated portion of the filling.

Crystal gold is the only gold by which that can be accomplished. It is true that there can be an incorporation of the gold in the filling, by which a foundation can be established so one can go on after a few layers have been made and build on crystal gold.

Cosmos.

Children suffer from various kinds of aches which it is not always easy to understand. Earaches, toothaches, faceaches, headaches, all visit them at various ages. A dentist who has examined the teeth of many children finds that the age of toothache is from seven to twelve, and of 3,145 children examined, only 707 had quite sound teeth, and those with imperfect teeth had defects which, without correction, would have led to permanent injury as well as to disfigurement. In this age when every organ and part of the body is receiving attention, the teeth should not be forgotten, and the children's mouths should be regularly inspected by a competent and honest dentist.

Pop. H. Mag.

HOW TO ARREST A BOIL, CARBUNCLE, OR MALIGNANT PUSTULE.

Dr. Barker writes to the *Medical Summary* that he has used the following procedure for several years with unvarying success: Take a large hypodermic syringe, holding, say, half an ounce, fitted with a small needle. Fill it with a 1 to 500 solution of mercuric chlorid, insert the needle in one of the peripheral openings, in case it is a carbuncle, and wash out the little cavity. Then direct the needle toward and in the surrounding induration, and force a little of the solution in it. Treat each opening and its corresponding peripheral circumference in the same manner, carefully washing out the necrosed connective and other tissues that have become separated. Repeat this daily with the solution, gradually reduced to one-half the original strength, till all induration has disappeared and granulations have begun to appear. If the first injection be thoroughly performed, the spread of the carbuncle will be arrested at once, and there will be no more pain. Washing out the little cavities is painless, but the injection in the indurated tissues is not free from pain. The same treatment is applicable to the little furuncles that invade the *meatus auditorius externus* and the inner surface of the *ala nasi*.

Medical and Surgical Reporter.

I have observed more failures (recurrences) at this point (cusp angles) than at any other point.

This is caused largely by the former practice of leaving these angles intact, with the view of giving some support to the filling, which I believe to be a fallacy. When but little dentine is left it is entirely inadequate to sustain the easily cleaved enamel under the wear and tear of mastication.

Anchorage gives better access to the cavity margins and all parts of the cavity likewise, than the older forms.

Outward bevel all round the cavity margin (not too great) and the cavity is ready for the filling.

We go to our meetings, and we talk and talk about how to prepare cavities and introduce fillings to make them last. Now what more is there to it than the putting of all the material you can in a good, clean, properly prepared hole?

However simple the general principles may seem, experience teaches there is a wide difference as to how the hole is cleaned and the material is put in—whether the results are to be permanent or

temporary; comfortable or painful—whether put in by the master or by the apprentice, the accomplished operator or the bungler.

The cervical margin! Place your filling material evenly and firmly on all margins and surfaces alike, maintain as uniform density as possible through the whole mass of the filling. Restore the lost form of the tooth caused by decay and excavation. The cervical margin should now be able to take care of itself.

Amalgam is to take rank, on its merits, as a permanent filling material, both for rich and poor; for resisting decay; for easier form-building; and for its adaptability to the cervical margin.

Review.

EXTRACTING AN ABSCESSED TOOTH.

"A" is suffering from an abscess developed from irritation produced by a dead tooth. He is about to visit the dentist to have the tooth extracted, when some officious, though well-meaning friend, informs him that it is dangerous to extract the tooth before the abscess has broken, and "A" will suffer many days and nights of intense agony, waiting for the abscess to heal, and after this has taken place, and he no longer suffers torture, he undergoes the additional pain of having the tooth extracted. As a matter of fact, there is no danger in extracting a tooth about which an abscess is developing. There was a time when it was thought hazardous to do so, it is true, but this theory has long since been exploded. Moreover, the pain of extracting such a tooth is entirely lost in the far greater pain suffered from the abscess, for when one suffers from pains of varying intensity, the sensation of the lesser pain is, measurably, lost in that of the greater.

Rubber for separating the teeth is little used on account of its great activity and of its disposition to work its way toward the neck of the tooth, thereby pressing on the gum and causing considerable pain. Yet rubber is made in special forms and used for this purpose still. This style of rubber often gets quite stiff, hard and rotten, making it, when wanted, unfit for use. Rubber-dam is always at hand, is always fresh and always ready for use. If a piece of this be *twisted in a roll between the thumb and fingers* it can be made in any size necessary for the case in hand, and being thus made cylindrical, is in the best form for application. Three, four, five or a dozen turns can be made of a small discarded piece of an inch square to place between the teeth to effect their separation.

T. F. Chupein.

DECAY OF THE TEETH.

— The dentist is confronted with three classes of diseased teeth—those in which the dentine alone is affected; those in which the pulp has been but recently exposed; and those in which, because of prolonged exposure, the pulp is either dead or dying. Of the first class I have already spoken. In a tooth of the second class, the pulp can be cured by the application of soothing medicines, which may remove the irritation and subdue the inflammation, and enable it to bear a filling. If, after being thus treated, the tooth be filled, a covering of secondary dentine may be formed by nature underneath the filling, for the better protection of the pulp, and soon the tooth may become as sound as ever.

Concerning the third class of decayed teeth, there are three kinds. Those in which the pulp has recently died; those in which there is more or less of infection and inflammation, and those with a fistulous opening, with a more or less constant discharge of pus. The first can be cured with comparative ease. The second may be relieved if judicious means are employed, while the third may require a considerable time, and the exercise of much patience and skill on the part of the dentist. The pulp chamber and canals must be thoroughly cleaned and disinfected, and this work is sometimes performed with great difficulty, as the canals are often crooked and difficult of access.

Should the dentist fill such a tooth, leaving within it particles of infected matter in the pulp canal, they may putrify and generate gases, which, having no escape except through the opening at the apex of the tooth, press against the surrounding tissues, and produce abscesses and swellings, with their accompanying pains. After the whole territory has been thoroughly disinfected, the canals must be effectually filled. It is sometimes advisable to insert a temporary filling to last for several weeks, and only after this experimental stopping has been sufficiently tried, and no unfavorable symptoms have supervened, should a permanent filling be substituted for the temporary one. If, however, the tooth becomes sore, it is an indication that inflammation is again active, and that unless it be reduced an abscess may follow. The filling must then be removed, and the tedious work of disinfection resumed.

It is apparent, then, that to postpone the work of filling a decayed tooth only increases the danger and suffering, while the result, when accomplished, is much less satisfactory, and much more expensive, painful and uncertain.

Bell's Mouth and Teeth.

“A GREAT MIXER.”

The following may well be applied to our talks and essays on dentistry:

“No, he’s not what you would call a remarkable preacher, but he is *a great mixer*.”

That is what a Cincinnati gentleman said to us to-day concerning a certain successful minister whose name had been mentioned. The saying impressed us. Our friend meant that this minister’s social talent is pronounced; that he mingles much with the people; and that he mingles with *all* the people, regardless of their station in life, the kind of house they live in, and the style of clothes they wear. Many ministers who possess attractive social qualities are also fine preachers. But whether they are distinguished in that direction or not they nearly always succeed. People like ministers who are “great mixers.” That kind is more and more in demand.

The same is true of other people. Coldness never wins. Selfish lives are negative. Exclusive souls shut the doors of other hearts against them. On the other hand, warmth of soul, geniality of manner, and sincere interest in the welfare of other people predicate large influence and certain success. He who would have friends that he may do them good must show himself friendly. “Great mixers!” That is the very idea. It is not enough to go among those whose delightful companionship gives full remuneration for our efforts to cultivate them. We should gladly go to those who have no interest in us and no desire to return our friendly advances.

Let the Church keep a sharp lookout for the caste spirit. It is of the devil. Here and there it is exerting its blighting power. Social cliques in the Lord’s house are an abomination. There must be no upper crust. There must be no lower crust. We all belong to the aristocracy—the aristocracy of heaven. Let brotherliness and sisterliness abound. Let it abound for our own sakes. We must get outside of self if we would grow. Let it abound for the sake of the hungry souls about us. They are yearning for the sympathy and uplift which we can give. Let it abound for the honor of God. He is most glorified by the salvation of those who are farthest away. “Bear ye one another’s burdens, and so fulfil the law of Christ.” In no way can we bear the burdens of others more helpfully than by following the style set by the minister whom our Cincinnati friend so pungently described as *a great mixer*.

Epworth Herald.

[DIGESTION.]

The stomach may be compared to a stove; the food to the fuel consumed by the stove, and life to the heat given off by the glowing coals. The stomach is an excellent stove, and will burn much bad fuel. But have a care lest it rebel, and the fire be extinguished.

Good health demands thorough digestion; thorough digestion demands thorough mastication, and thorough mastication demands sound and healthy teeth. Ulcerated roots and decayed teeth, an inflamed mouth and vitiated saliva, are poorly fitted to supply the stomach with food that can be properly digested and assimilated.

Abscesses with agonizing pains, necrosed jaws and probable disfigurement of the face, with tumors and foreign growths, frequently result from a neglected mouth.

Diseases of the eye, ear, and the cavities of the head, often the most difficult to diagnose, may be traced directly to an unhealthy condition of the teeth. But a short time ago, I was visited by a young lady whose eyes were so badly affected that she could only see with difficulty. Medical treatment had failed to relieve her. Having trouble with her teeth, she found it necessary to consult the dentist, and with the curing of her dental troubles her eyesight was restored.

I have seen the most robust patients shattered in health by dental troubles. Who is not familiar with the acute suffering with which the development of an abscess, or swelling on the gums or face, is accompanied? The pain is not only agonizing, but the general health is affected. Surgeons and dentists are daily called on to perform operations for the removal of necrosed portions of bones, and tumors of the most formidable character, and sometimes even for the removal of the entire jaw. There is not a disease to which the human body is liable that is not aggravated by an unhealthy condition of the teeth.

It is marvelous to observe how men will spend money in the most extravagant manner for outward show, or will wear away the best part of their lives in the accumulation of wealth, and yet never give a thought or a penny to the preservation of health. But there will come a day when disease shall have so wasted their system as to place its recovery beyond all medical skill, and then they will realize the full consequences of their neglect.

THE ORIGIN OF PATHOLOGICAL TENDENCIES.

Prof. James B. Hodgkin, D.D.S., Washington, D. C.

We shall never know the secret of life: for to know this will be to be as the gods—the life-makers. The history of the primordial germ will elude our keenest analysis, and neither scalpel or microscope will ever tell the secret of the original concept. Still, the desire to know, the restless wish to get to the fruit of this tree of knowledge will not be thwarted by difficulty, or turned aside by obscurity; for man still hopes to find that which makes him what he is.

Pathos, pain, sickness, organic weakness—how shall we inquire in the hidden nature of these; how study out the origin of the why one organ breaks down sooner than another; why this man's lungs go to pieces and that one's nervous system; why this woman has a lifelong bowel trouble and that one hysteria. We are, indeed, fond of saying that these are born with such and such tendencies, but beyond that and deeper than that lies the *why*. It is the province of this paper to look, so far as the writer's feeble powers may, in the causes that seem to go a step further into the case than simply the phrase "inheritance" implies. In other words, it is a question; a step further than inheritance—how, or in what way, does the inheritance come? We can never hope to get all of this, never expect to fathom the mystery of nature, by which she fashions cells, and from impressions so vague and occult as not to betray their presence save by their results the whole work is biased, leaning this way or that, is predisposed to this or that sort of ultimate breakdown. To know all this is such knowledge as we can only hope for, not expect.

We are a long way off from such knowledge now. Are we nearer to it than we are as to why man grows to be six feet?

One thing is proven, that is of all nature's constancies, nothing is so persistent as type. Moving within specific lines and developing within specific channels, nature is, with but slight deviations, one. The man of to-day is wonderfully like his ancestor, the *savage*; so like that we are puzzled to know if the skull we dig up was buried one hundred or one thousand years ago, and mentally this is more true than we are willing to confess. Where is the poet since Homer? or the lawgiver since Moses? There is no architect since he who built Thebes; no profounder thinker than Plato. Reproduction, not creation, is man's mission, and reproduction within well-defined limits.

But in reproduction man has been allowed, if I may so speak,

to reproduce not only his individuality, physiologically, but in some degree his abnormalities and weaknesses. All, however, within described limits. Over all and above all the slow and unconsciously moving hand of evolution fashions him in something better, or worse, who shall say?

Why one man should be so constituted physically as to be predisposed to pneumonia, another to heart or kidney, or nervous trouble, is impossible to answer. We flippantly say it is inherited. But *why* inherited? The type persists: six feet high, and perfect, so far as functions go; what is that subtle and intangible thing we call hereditary predisposition? How far can we go in analyzing and studying this subtility?

With the two forces operating—one strictly enforcing the type, and the other causing within prescribed limits, physiological deviations from that type, there seems to be a *third*, or possibly a modification of the second force. Pathological conditions, or rather the tendency to pathological conditions, seem as strictly inheritable as physiological ones. That constitutional bias by virtue of which some diseases are likely to be developed seems to be as much an inheritance as symmetry of form. So we find, as we have hinted, that almost every system has its predispositions, and these are as distinctive as the color of the eye, the form of the hand, the shade of the hair, etc. One family is predisposed to consumption, another to paralysis, and so on. Even a supernumerary finger is as inheritable as a bad temper. We say of one man: "He walks too fast, works too rapidly," and we charge his hurry with making him nervous. Really it is his nervous force that makes him go—and this he inherits.

Granted then that constitutional tendencies are inheritable and inherited, the question arises, in what way? We read in the 30th chapter of Genesis, that Jacob, whom Shakespeare makes Shylock call "the crafty," placed before the breeding ewes peculiarly colored rods, which these animals, seeing, would be maternally impressed by, and conceiving under these circumstances, bore offspring of colors and stripes somewhat similar. The impression here made is at the moment of conception, and it is to this phase of life, or life's beginning, that I wish to call attention. For of those obscure fetal changes, resulting in monstrosities, which occur in intra-uterine life, of which so much is made by the ignorant and so little made by those that closely observe, I have only to quote the saying of William Hunter, that in a life spent in a lying-in hospital he had never seen a coincidence—that is, had never seen a case in which the birth-marks, where they existed, corresponded with the mother's expectations.

A widow, remarrying, will sometimes bear children like her first husband; a female, of any species, often receives from her first sexual contact an impress that persists through many successive pregnancies. Thus a female dog will, as a rule, have successive litters of puppies like the father of her first litter, though there be no resemblance between him and the father of her second, third or fourth. Some mysterious stamp is made on the nervous system by this first contact, that modifies in an obscure way, many succeeding pregnancies.

Taking these two forces then—that of the persistence of type; that of the differentiation of type within defined limits, and that third, or modification of the second force—the inheritance of pathological tendencies, and grouping these, we have the sum of what constitutes our “mold.”

The question at the bottom is—at what time or in what way are these semi-pathological impressions, which we are obliged to recognize as existing, made on the constitution? Is it the “nine moons that go to the making of a man,” as Tennyson has it; is it from accidental or incidental impressions made on the fetus in utero through the nervous system of the mother, as some are fond of imagining? I cannot think this is true. Nature does not thus work. I will illustrate what I mean by what we see oftener than we ought:

We have the picture, sometimes in the courts, sometimes in private life, of the seduced and betrayed woman abandoned to her fate by her betrayer. He refuses, after gratifying his lust, to make the amends for his crime he might, and leaves her to pine in solitude till she comes to the maternal period. Imagine, if you can, what a torrent of feelings possesses her. Now rage, now desperation, now despair, now hope. I cannot imagine a more troubled sea of unrest than the mind and soul of such a woman. Shame, fury, revenge, love, despair—a commingling of all that would make a turmoil of the soul, a hell on earth possesses her till the somber and disgraceful end. Suicide, murder, entreaty, all struggle for place in her perturbed soul. If all these make their impress on the mind and character of her unborn son, what a monster he must be. Yet I am assured that some of the world's most illustrious men have been bastards, and born under circumstances such as I have depicted. I was told not long ago that on the bench of the Court of Appeals of one of the oldest and most honored of our States, have sat at one time three bastards out of a total of four comprising the court; great and noble men, but legally fatherless.

It comes to me with more and more of increasing conviction

that we are to look to the moment of conception for pathological tendencies no less than to physiological stamp. When spermatozoa and ovum come together and the edict goes forth that "a man child is conceived," I cannot but think that he takes his ideal shape then and there. If he is to be tall or short, to have blue eyes or black, have his mother's characteristics or his father's—that all this is the result of the culminating stamp of concept; and that as Minerva sprang full-fledged from the brain of Jove, so the created man is created with all his peculiarities and idiosyncrasies, his constitutional bias, at this supreme moment.

Hence we see in this light of the subject that a child has teeth the form of the mother and the quality of the father, or the reverse, or the jaws of one and the teeth of the other.

Such a theory relieves us from the necessity of believing that man is the creature of circumstances, and of the numberless accidents and impressions of intra-uterine life; it shows beyond doubt that in this way, and this way only, can the type be preserved. It relieves us from the necessity of accepting the doctrine that teeth can be starved in an otherwise well-nurtured body; and that, excepting in the case of accidental interference with nutrition, as in the case of an eruptive fever, or the pitted and semi-lunar markings of syphilitic inheritance, they are molded in the form and after the style of their ancestors.

It has been years since I first began to feel that we, as creatures, could not be the helpless victims of circumstances, the sports of environment, the makeshifts of accident. That man is the creature of his environments is a truism, broad and general, but too broad to be more than of very general application. But he is not the defenseless and helpless thing that such a doctrine would make him. Not only man, but even the inferior animals, mold circumstances and take advantage of ebb and flow to gain the desired haven. We have only to look about us to see that man as much creates the world in which he dwells as he is created by it. His nature clings to type with great tenacity, and I fail to see that environments have much modified that great fact.

The creative stamp is greater than any environment, not by slow aggregations, but by a full, complete, accomplished act. The development of the individual "ego" is the result of that crowning inception, and not of emergencies and trivialities. Semi-pathological conditions transmit themselves by one swift act to their successors, and by the individuality of primal stamp become a part of the person. Weak teeth, weak eyes, weak lungs—any weak organ is transmitted, and as pathologists we have to battle with the weakness.

PRACTICAL POINTS.

Mrs. J. M. Walker, Bay St. Louis, Mississippi.

Sterilization of Decalcified Dentine.—The layer of decalcified dentine left as pulp-protector is full of microorganisms, and must be sterilized. Dry thoroughly with alcohol and hot air, then saturate with oil of cloves and oil of cassia, equal parts. This forms the best pulp-protector. *H. A. Smith.*

Chloro-percha.—To the ordinary solution of gutta-percha in chloroform add an equal bulk of oil of eucalyptus or oil of cassia. This holds the gutta-percha in solution after the chloroform has to some extent evaporated, rendering it easier of introduction in the root canals and very adhesive. *F. G. Eddy.*

After-pains from Extraction of Exostosed Teeth.—When the bone has been distended and strained, actual osteitis may result with severe pain and inflammation. The application of hot water will act like magic, relieving the congestion and diffusing the inflammation, establishing normal circulation through the parts. *J. D. Thomas.*

Orthodontia.—When the anterior teeth require rotating, while insufficient space for the combined width of the four incisors would necessitate extraction of the first bicuspids and drawing back the cuspids, time may be saved and suffering avoided in some cases by cutting off the incisors and substituting smaller porcelain crowns. *J. S. Caroli.*

Pulp Devitalization in Anterior Teeth.—Apply to the well-exposed pulp a small pellet of cotton moistened with an essential oil, and carefully dipped in cobalt. Flow thin oxiphosphate over the cotton and dismiss for twenty-four hours; then remove the cement; wash out cavity with one of the essential oils; apply a pellet of cotton saturated with the same, and seal in with cement for one week. *C. N. Johnson.*

Taking Impressions in Modeling Compound.—Select a cup with straight sides, about one-fourth inch larger than the arch; soften the compound in boiling water; roll it in a ball; place in center of cup, and work it out to the edge; turn it over, and dash cold water on the back; then quickly pass the surface of the compound over a Bunsen burner; the water chills the back and gives the compound a body, while the dry heat softens the surface. A very sharp impression may thus be obtained, with all the lines well defined. *M. L. Fay.*

Root Canal Dressing.—Rub up a grain of aristol in ten or twelve drops of one of the essential oils, to which two or three drops of ether or chloroform may be added to facilitate the process.

* * *

To Give a Smooth-finished Surface to a Vulcanized Plate.—Having the surface of the plaster clean, free from oil, melted wax, or fragments of plaster, coat it with liquid silex, made quite thin by the free addition of boiling water; apply just before packing, and vulcanize immediately, as the plaster quickly decomposes the silex.

George B. Snow.

Removal of Pulp-tissue in Root Canals.—When the pulp-tissue in the canals remains sensitive after devitalization with arsenic, inject a 4 per cent solution of cocain with hypodermic syringe in each canal, and the tissue can be removed without pain. "You will be astonished at the result."

George A. Mayfield.

Arsenical Applications.—In lymphatic patients, the application may be made directly to the pulp, and the operation will be painless. In patients of the nervous temperament, a similar application will be exceedingly painful, and the arsenic should be placed in the dentine as far as possible from the pulp. It all depends on the temperament of the patient, which should be noted in every case.

J. Foster Flagg.

Disinfection of Instruments—Bichlorid of Mercury.—If you use rose-water instead of distilled water in making your bichlorid solution, you can drop your instruments in it with impunity.

Geo. S. Allan.

Devitalization of Congested Pulps.—To overcome the irritation from pressure of inflowing blood to the congested pulp * * "I have never found any agent equal to iodoform combined with arsenic." Four times as much iodoform as arsenic, one drop of carbolic acid, a piece of cotton the size of a pin's head; apply to the pulp, cover with a tin cap, seal with oxiphosphate.

James Truman.

Loose Teeth—Therapeutic Treatment.—Remove all deposits; ligate if necessary. Inject in the pockets aqua-ozone, followed by solution zinc iodid (10 grs. to oz. water). Repeat daily for thirty or forty days, then twice a week for six months. If gums are flabby and relapsed, add two minims saturated solution tannin in glycerin to every sixty minims zinc iodid solution when using. Carbonate of magnesia as dentifrice during treatment.

Review (editorial).

Iodoform in Root Canals in Treating Alveolar Abscess.
—Brubacher uses a paste consisting of

Iodoform.....	5 parts.
Salol.....	3 “
Cacao butter.....	10 “

He claims that this penetrates through the apical foramen.

* * *

Permanent Sterilization of Contents of Inaccessible Root Canals.—Place over the mouth of root canals a crushed pastil consisting of

Hydrarg. bichlor.....	0.004 grams.
Acid thymic.....	0.006 “

An insoluble albuminate of mercury is formed by the action on the remnants of the pulp, forming a germicide of considerable power.

Southern Dental Journal and Luminary.

Obtunding Sensitive Dentine.—Have the patient rinse the mouth well with dilute lime-water, not strong enough to be caustic. This forms a good application for the relief of sensitive dentine.

Dr. Williams.

Aseptic Mouth-wash.—

R.—Extr. hamamelis virg. dist.....	fl. oz. ii.
Acidi baracici.....	dr. ss.
Tinct. capsici.....	dr. ii.
Menthol.....	grs. xx.
Literin	fl. oz. iii.

J. Henry Morgan.

Protection of Arsenical Application.—Cover with a pellet of dry cotton, over which place cotton saturated with chloro-percha. The chloroform acts as an obtunder; the gutta-percha is impervious to moisture; the application is painless.

D. D. Atkinson.

For Setting Crowns.—Mix, with heat and careful working, one part of gutta-percha and three parts of vermilion. For setting porcelain crowns with pins extending in the root canal, or gold crowns and caps, this combination will be found strongly resistant to the action of the mouth fluids.

W. H. Rollins.

Neuralgia of the Fifth Pair of Nerves.—

R.—Codein.....	gr. ij.
Phenacetin,	
Quinin.....	ãã grs. xxx.

M.—Fiat capsules No. 12.

Sig. One capsule every three or four hours till relieved.

D. E. Wiber.

Pulp Capping.—Cover pulp with gum dammar; cover this with oxisulfate of zinc. When hard, fill the tooth with what you like.

Dental Digest.

Green Stain.—Moisten pumice with a two per cent aqueous solution trichloroacetic acid. *W. H. Jones.*

Pulp Conservation.—Flood exposed pulp with Merck's creasote; take away excess and apply a layer of zinc oxid, as dry as convenient to handle; cover with a concave disk of sheet lead. Finish with cement as judgment dictates. *W. G. Elliott.*

Pyorrhea Alveolaris.—Palliative lotine after removal of calculus:

R.—Resorcin	3ij.
Sodii salicylat.....	3j.
Sodii biboras	3j.
Glycerol.....	3iv.
Aqua dist.....	q. s. ad ft. 3viii.

M.—Sig. Lotis *ter in die*.

W. X. Sudduth.

Care of Rubber-dam.—Wash; dry; dust with powdered soapstone. Slips over the teeth easily, and has pleasant feeling in contact with face. *A. Bowen.*

Oxiphosphate Near the Pulp.—To prevent pain. If the pulp is wounded stop the hemorrhage with chloroform, removing clot before capping. Add oil of cloves to thin solution of chloroform and apply over exposed pulp. Over this lay a piece of No. 8 tin foil or a flattened pellet of gold, then fill with oxiphosphate.

I. Douglas.

Copper Points in Root Canal Filling.—Fill apex with chloro-percha; moisten small gutta-percha point in chloroform and press down. Select copper point of proper length, flatten large end slightly, heat and drive home. "I have used these points three years, and am more in love with them each time they are employed."

C. D. Hand.

Root Canal Filling.—Cedar wood is peculiarly well adapted for filling root canals, as it is very soft laterally and adapts itself readily to any irregularity in the canal, while it is very hard when dried.

Dr. Seabury.

Root Canal Filling.—For doubtful root canals prepare a gutta-percha cone by dipping waxed floss silk in chloro-percha and laying aside for chloroform to evaporate. Fill canal with chloro-percha and carry silk gutta-percha cone to place, leaving projecting end in cavity. Easily removed if trouble ensues.

R. Ottolengui.

Use pumice stone instead of charcoal in soldering, and you will avoid the headache caused by charcoal fumes.

J. H. Crossland.

Preparation of Amalgam.—Add a teaspoonful of hydrochloric acid to a pint of water. Pour a sufficient quantity in a wedgewood mortar, add the alloy, stir with pestle; add the mercury and amalgamate. Then wash in clear water; all the black oxid will be cleansed from each particle of the alloy; the amalgam will act quicker and stronger and will discolor less.

Benj. Lord.

[Bicarbonate of soda in water is excellent. If the water is objected to use alcohol with what soda it will dissolve.—ED. ITEMS.]

Metal Die for Gold Crown.—Fill a Melotte's impression cup with the compound. Select a natural tooth with suitable cusps and press down in the compound, leaving the clear and dry crown exposed sufficiently to form the cusp. Place on the rubber ring, hold the tooth down with instrument, and pour the melted fusible metal slowly—agitating the cup while pouring—will give a die with smooth polished surface.

E. D. Biddle.

Neuralgic After-pains Following Extraction.—This may be due to irritation at the point of severance between pulp and maxillary nerve, perhaps a portion of the pulp drawn through the apex and remaining in the socket. To give relief apply nitrate of silver in the socket.*

J. D. Thomas.

Electrolysis in the Treatment for Erosion.—On everting the lip some of the labial glands may be found enlarged, yielding on pressure a thin watery acid fluid. When this is found to be the case, have the patient place the fingers of one hand in a bowl of water containing a sponge electrode on positive pole of the battery. With a fine platinum probe on the negative pole pierce the diseased glands, destroying their function and causing a cessation in the discharge of the acid secretion.

N. P. Brubaker.

The Typical Dentrifice.—For general use prepared chalk furnishes a mechanical base which will do neither chemical nor mechanical damage. A small quantity of bicarbonate of soda furnishes the needed antacid. Oil of cinnamon, as an antiseptic, is pleasant to the mouth, giving a sense of cleanliness and sweetness. Use with soft brush and warm water; if only once a day let it be at bedtime.

A. Turner.

Pulp Capping.—Cut a piece of clean writing paper to the proper size and place on it a sufficient quantity of cement. With pliers place it over the pulp, burnishing the paper to place. The paper acts as a convenient cement carrier and is a splendid non-conductor.

C. R. Taylor.

* Strong carbolie acid applied in the bottom of the socket will often give instant relief.

E. C. Kirk.

To Obtund Sensitive Dentine.—Apply rubber-dam and place in the cavity a pledget of cotton saturated with Black's 1, 2, 3, or one of the essential oils. With chip-blower throw on hot air till the oil is evaporated and the cotton looks scorched. Usually very successful in white or light brown decay in the teeth of very young children.

H. Barnes.

Aseptic Mouthwash.—

R.—Extr. hydrastis Canadensis..... f ʒj.
 Listerine..... f ʒj.
 Zinci sulpho-carbolat..... ʒss.
 Aqua rose..... f ʒiv.

J. Henry Morgan.

Ascepticism in Implantation.—To prevent infection after the operation, before dismissing the patient, cover tooth and gum thoroughly with tannin and glycerin, keeping the mouth open for five minutes, or till a distinct coagulum is formed. This will adhere for several, even to eight days, giving perfect protection to the tissues.

Dr. Ottolengui.

Sensitive Dentine.—In applying nitrate of silver to allay sensitive dentine, if the crystals are moistened with alcohol, its effectiveness is greatly enhanced.

H. D. Boyd.

Pyorrhea Alveolaris.—In addition to the usual treatment in very obstinate cases, * * * * "I prohibit all alcoholic drinks and advise a régime of sweet cider * * * * the systemic action of the malic acid is to transform the uric acid into hippuric acid, which has not the inconveniences of the former. Under this régime I have obtained a number of vastly improved cases, as well as some apparently cured."

Dr. Du Bouchat (Paris).

Treatment of Healthy Pulp Exposure.—Apply creasote and oil of cloves combined, sealing up the tubules of the dentine and protecting the sensitive surface. Mix oxid of zinc and creasote to the consistency of cream and carry in the cavity on tiny squares of spunk without pressure. Mix oxichlorid of zinc to consistency of putty, adding a little creasote, and line the cavity generally. Add zinc phosphate if the cavity is deep, and follow by metallic filling if desired.

F. E. Howard.

Bleaching Discolored Teeth.—When it is desired to leave undisturbed a good filling in a discolored tooth isolate the tooth with the rubber-dam, and wet the enamel thoroughly with pyrozone spray (McKesson & Robbin's external solution). A tooth of nearly seal brown color was thus treated during two sittings of two hours each, when the color practically disappeared and had not returned three months later.

Dr. Bailey.

ITEMS.

Wear your learning, like your watch, in a private pocket and do not pull it out and strike it merely to show that you have one. If you are asked what o'clock it is, tell it, but do not proclaim it hourly and unasked, like the watchman.

Chesterfield.

* * *

It is said, and I think the statement has truth for its foundation, that the children of drunkards are often epileptics, and that children begotten while the parents were in a state of intoxication, are not infrequently idiotic. If this be true, it would tend to show that the stamp made on the ovaries at conception by the drunken parent was indelible.

B. H.

* * *

I sincerely wish that Prof. J. Foster Flagg might give us a few rules for the proper manipulation of oxiphosphates, whereby we could get uniform and positive results, I have great faith in oxiphosphates as a preservative of carious teeth of weak structure, and believe most failures in its use are largely due to a lack of knowledge how to mix and manipulate it.

F. C. Croul.

* * *

A "BRACER" AFTER EXTRACTION OR DURING PROLONGED AND TEDIOUS OPERATIONS.—A glass of Horlich's malted milk, to which may be added fifteen or twenty drops aromatic spirits of ammonia, given the patient after extraction, especially where a number of teeth have been extracted, will revive and strengthen the patient. As a stimulant during prolonged and tedious operations is a boon to both patient and operator.

W. H. Jones, D.D.S., Fultonville, N. Y.

* * *

Recently I had just completed a gold filling in central incisor for a lady, and removed the separator, when she asked me what "that thing" was; after being told it was a separator, she replied, "I will never get a divorce if it hurts that bad to separate."

The little instrument above referred to, I find almost indispensable in the filling of some proximal cavities, and the jesting remark concerning it, shows to my mind very conclusively that "we dentists" should use particular pains in the adjustment and manipulation of same, and shield our patients from as much pain as possible.

W. W. Jones.

IF YOU WOULD MAKE YOUR PLATES FIT.—After taking impression, examine mouth and mark impression corresponding to hard places found on gums or plate, paying particular attention to ridge usually found in center of palate, and over which plate is most liable to rock. Scrape impression where marked, lightly or heavily, as hardness of spots would indicate. This will raise plate off unyielding spots and put pressure on soft parts.

R. E. Sparks.

* * *

In putting in a permanent filling of alloy or gold over oxiphosphate, it is not necessary to remove all the cement, if the cavity has been properly prepared and the tooth gives no trouble. Cut away a little of the cement, securing retaining points, and plate on the metal. It will be better than a whole metal filling, and less dangerous to a sensitive or nearly exposed nerve.

It is the non-conducting quality of rubber that causes sore mouth.

E. Blackshaw.

* * *

A VENT IN YOUR PORT POLISHER.—I have just been drilling a hole in the socket of a plain port polisher. As I was in the act of making this improvement, the thought occurred to me that the makers ought to do this when the instrument is being constructed. I have never seen this improvement in any port polisher but my own, and thinking that you might use the idea for the benefit of the profession, I concluded to call your attention to the value of a vent for the escape of air in the base of the socket. This vent greatly facilitates the setting of the points, as there is no compressed air present to displace them when they are pressed in the socket.

Earl D. Eddy, San Francisco.

* * *

An annoying operation to successfully perform is filling a lower wisdom tooth that cannot, for half a minute at a time, be kept free of saliva. Such a case presented in a young lady, of highly nervous temperament, whose flow of saliva was excessive. Placing of the dam was impracticable, and napkins placed in the mouth would almost immediately become saturated. This annoyance was overcome through the action of sulfate of atropin, a dose of which ($\frac{1}{120}$ grain) I had her take three-quarters of an hour before her next appointment. At that time I found the mouth very dry, though not uncomfortably so for the patient. This salt of atropin has a much better effect on the secretion than the ordinary alkaloid. Its manifestation lasts from four to five hours.

H. Otis Logue, D.D.S., New York.

The English journal *Industries* reported several months ago the accidental discovery at Charlottenburg, Germany, of a new compound, said to prevent the rusting of iron or steel.

We now learn that the German Government, having investigated this new compound,—known as manocitin,—has made use of same in several departments. This manocitin is said to be very effective; it is free from acid and is readily removed.

Power and Transmission.

* * *

Give us, O give us, the man who sings at his work! Be his occupation what it may, he is equal to any of those who follow the same pursuit in silent sullenness. He will do more in the same time—he will do it better—he will persevere longer. One is scarcely sensible of fatigue whilst he marches to music. The very stars are said to make harmony as they revolve in their spheres. Wondrous is the strength of cheerfulness, altogether past calculation its powers of endurance. Efforts, to be permanently useful, must be uniformly joyous,—a spirt all sunshine—graceful from very gladness—beautiful because bright.

Carlyle.

* * *

The best way to mount disks and points for the dental engine is with phosphate cement. Mix this thin or to a creamy consistency. Drop a small quantity in the hole of the disk or point, and daub a little on the end of the mandrel. Place the mandrel point in the hole of the disk, and make it true by putting the shank of the mandrel through the "disk setter." Let this remain till the cement gets perfectly hard, and you will find that the disk or point will never separate, which cannot be said of mounting these with gum shellac as is generally done. *T. F. Chupein.*

* * *

ARSENIC.—There are some dentists who promptly apply an arsenical paste to sensitive cavities, whether the pulp be exposed or not, and patients have been led to approve this, thinking thereby to avoid pain during the filling. But it is very bad practice, and the more reputable portion of American dentists condemn it earnestly, and for some of the following reasons:

First. Because when devitalized, there is always the liability to putrefaction and the formation of an abscess.

Second. Because it is much easier to fill a live tooth than a dead one.

Third. Because a dead tooth is liable to many diseases, and is not as permanent or as useful as a live one.

V. C. Bell.

VULCANIZING BETWEEN METAL.—For the benefit of Dr. P. Z. Haight, and others, I give my method of vulcanizing between metallic surfaces. Before pouring the second half of the flask burnish pure tinfoil (heavy) on the lingual surface of the wax, letting it cover a part of the grinding surfaces of the teeth, and leave the edge of the tin free so that it will be engaged by the last pouring of plaster.

Before packing the case burnish No. 4 pure tinfoil on the model, and there will be no trouble getting perfect surfaces if the foil is not torn. Do not use anything but pure tin, otherwise there will be dark spots.

Geo. M. C. Barnard.

* * *

We believe in cobalt for the destruction of pulps. We do not believe in leaving pulp-stumps in the roots of teeth after the application of cobalt, with the idea that they will live, or that they may be sufficiently sterilized to remain healthy. We believe in absolute alcohol for dehydrating pulp-canals, and consider dryness a *sine qua non* to successful treatment. We are not alarmed at the result of any possible coagulating properties of the alcohol. We are opposed to over-treatment, believing that continued operative interference often results in irritation which prolongs the disease. We believe in economy of time both to patient and operator, consistent always with the most thorough work. We believe most abscesses may be cured with one treatment, but recognize the chronic cases that require time and patience. We believe in an attempt being made to fill all roots of pulpless teeth, but do not believe all roots can be filled.

C. N. Johnson.

* * *

I would like to bear testimony to the value of salol as a root-filling material. Since the publication of Dr. Mascort's paper and for a month previous to that, because I had the paper in my possession fully a month before it was published, I have used nothing but salol for filling roots in my practice. I have, in some cases, used it in connection with a gutta-percha point, but generally without it. It crystallizes solidly in the canal. When it is melted and introduced in the warm, dry canal, it apparently flows in the uttermost extremities of it. It has a fluid character like melted paraffin or the paraffin oils, and in a few moments it crystallizes. I have yet to have the first case of apical pericementitis follow a case so treated, though I have been almost, you might say, careless in the use of it,—that is, I have used it in immediate treatment of cases and those of recent devitalization, and it has been uniformly satisfactory to me.

Dr. Kirk.

A young lady of twenty came to me with a lateral decayed I inserted a bone filling. In a few days she returned with her face much swollen. Where the central had been extracted, I found a tiny opening and, on pressure, pus oozed out.

I injected peroxid of hydrogen and continued this treatment for ten days, when all soreness disappeared from the lateral, and the opening of the extracted central became healthy. New granulations had nearly closed up the opening and no indication of pus. This was on my arrival in Guatemala three months ago.

Luella Cool, Guatemala City, Central America.

[I think a small piece of the central, with an abscess, will be found there.—ED. ITEMS.]

* * *

A gentleman of thirty-five came to me with a lower central badly affected, the gum receding so that the tooth was ready to drop out, pus coming from the gum and a great deal of inflammation. I fitted a narrow band around the three front teeth, and soldered them with a narrow band in the back. These were inserted on the teeth which held the affected one firmly in place, and cemented on. I injected peroxid of hydrogen in the pus pocket. In two weeks all inflammation was reduced. I applied tincture of iodine and aconite. I succeeded beyond expectation.

Luella Cool, Guatemala City, Central America.

* * *

GOLD AND PORCELAIN CROWNS.—Dr. S. W. Twilley, Baltimore, Md., describes his method of making gold and porcelain crowns similar to the Richmond system, arranged so that the porcelain fronts can be adjusted or replaced at any time. The band, cap and pin are united with solder in the usual manner. The porcelain front is then provided with a heavy backing and attached with soft wax, not bending the pins. The porcelain is then fitted to the cap and attached with hard wax, after which the porcelain is separated from the backing with a thin bladed instrument. Lead points, No. 4½, such as are used for lead pencils made by Henry Cohen, of Philadelphia, are used in the holes caused by the withdrawal of the pins, with the ends left projecting slightly. The parts are then placed in plaster and marble dust, and united with solder in the usual manner. The solder flows around the carbon points, after which the carbons are removed with a drill and the holes slightly countersunk. The crown is then set with oxiphosphate and the ends of the pins riveted.

Dental Register.

* * *

The Georgia Dental Society meets this year at Indian Springs, July 11th-14th.

LOCAL ANESTHETIC.—Gum camphor fifty-five parts, mixed with forty-five parts crystallized carbolic acid, I find useful as a local anesthetic for simple operations. It is particularly useful used topically in extracting loose teeth, or after extraction where there is a tendency to hemorrhage.

N. H. Keyser, in Dental Off. and Lab.

* * *

A GOOD ENGINE CORD.—An engine cord may be made at a cost of three or four cents from a pair of ordinary round twilled corset laces. Cut one of the brass tags off, and by means of the tag on the other lace, telescope one lace end over the other, one or two inches. Take the other ends, and, after measuring, cut off one to the proper length and proceed as with the first two ends. The tags may be passed out through the sides and cut off when inserted far enough. A few stitches through the telescoped ends will hold them secure.

Dominion Dental Journal.

* * *

PINK BASE PLATE.—In nearly every sense I know of nothing so important as pink base-plate gutta-percha.

To teach you how I use it for the preservation of the human teeth, both temporary and permanent, will be the foundation of a system that, if I have had any success at all, I can attribute to this one article as much as or more than any other filling-material.

In conjunction with this I cannot overestimate the value of the discovery of the laws of articulation and the articulator that bears my name, and of which I am more proud than of all my other productions. Without knowing what I do of articulation, the gutta-percha might never have been seen in the same light by me.

J. Foster Flag.

* * *

Many canal roots met with in practice are small, indistinct, and difficult of access, so that they cannot be thoroughly cleared. For many years I have used a ten per cent solution of bichlorid of mercury in absolute alcohol, applied to the pulp chamber on cotton, wool or other fiber with great success. But since Dr. Miller's paper, read at the Chicago Congress, in 1893, advocating the use of a pellet formed of one-tenth of a grain each of bichlorid of mercury and thymol, I have adopted this method in some two hundred cases, but using pellets of only one-fifteenth of a grain, and by far the larger number of cases were very successful. I do not advocate this treatment where the canal could be got at, as I am strongly in favor of filling all root canals where possible, but in almost inaccessible positions the plan suggested is valuable.

Dental Record.

EDITORIAL.

SNAILS AND SLUGGARDS.

The slow, sluggish, slovenly way of the sluggard leaves but the nasty sticky tracings of the repulsive snail. Up! cease to crawl along in such a winding slimy path. Stand up like a man, and use your backbone. Take the quick step of the disciplined soldier. Now; forward, march!

These dragging, worthless, useless snails, as they draw their cold, slimy, slippery lengths along, are a nuisance everywhere. It is a good thing to let in the light of day and send them to their dark recesses. O, do not be a snail. Open the blinds wide and let in the glorious sunlight. Clean up well your premises. Get rid of the mildew. Scrub, brighten, sweeten everything, and your customers will find no snails in your office.

Men that yawn and stretch and sleep their lives away live with snails amid refuse and decay. No wonder they are avoided. Let us be quickened with the glow of activity and choose the sunshine, enthused by some great purpose. Come, let us up and at it.

WITH YOUR VOCATION HAVE AN AVOCATION.

Of course a vocation comes first. We should know and practice some thing well before we turn much attention to any by-play.

But we who have a vocation that so absorbs our energies as to exhaust all the sweet juices of our nature, must be careful lest we get into such a rut as to become a mere wheel-horse. To lose sight of all diversions is to forget we are men as well as mechanics.

We met a man the other day who has maintained a good dental practice for many years, and yet has had so many diversions that his vocation has been a pleasure, and his whole life buoyant and happy. He has a half acre of fine fruit and a garden that the very gods might envy him. He cares for it by his own labor, and gathers something of its variety from early spring till late fall. Said he: "It is the luxury of my life."

Our varied tastes will take us to various avocations. But it should be something, somewhere, if we would know the pleasure of living.

CONTENTMENT.

It is well to be contented. But it is wise, sometimes, to examine ourselves to see what contents us. The hog in the sty is contented if he has enough to eat, and some human hogs are contented if, in addition to this, they have enough to drink.

Have we not aspirations higher than this? A man that is a man has more than a stomach, and an appetite for more than is in the swill tub. As he rises to the true plain of his manhood he develops aspirations that bring appetites which give him a growth that far outstrips the mere animal, and he will not be contented till he feels them tingling and tickling, and producing and maturing a want, an appetite, that must be satisfied. There is an appetite for knowledge, and as he devours knowledge to satisfy this hunger and assimilates it till it becomes wisdom, it becomes a thrill of delight that the mere animal knows not. He finds, also, an appetite of the affections that produces a wonderful working on his higher nature and generates a pure love that swells his very heart with delicious fruits. And, if he does not blunt his highest nature, he will have another appetite still richer—a spiritual appetite that cannot be satisfied with the husks of sensuous pleasures. He will feast on divine things till his whole being takes on, and is thrilled with divinity. Yes, he will become so possessed of this life of life that he will be the very manifestation of God himself among men, glowing and brightening, burning and shining, through the world, and then he takes on wings and flies away home.

It is not so much talent as tact that gives us success among men. Talent is often for the masses too ponderous in its complex dignity, but tact trips along accomplishing its purposes by a smile. Talent is a marvelous gift, and if improved makes a wonderful man of astuteness, solidity and grandeur; but tact is more cunning than wonderful, and prefers a soft step to a solid one, and popular success to grandeur. We praise talent, but we laugh at tact. Talent is convincing, tact is shrewd; talent is mighty, tact is cunning; talent is convincing, tact is insinuating.

OUR WEAK POINT.

It is our weakest point we should more especially guard against. Our strongest parts will take care of themselves. •

What is your weakest point? Be sure you have one, and the sooner you discover and acknowledge it to yourself the better; for your whole character is no stronger than your weakest point. It may not be your neighbor's weakness. Where he is weak you may be so strong you can laugh at him. The more important question is: What is your weakness?

Do not hope to hide it. Cloak it, as you may, others will discover it. Your best friends see it, and regret it, though they be silent, and though you may so ignore or mimic it as to forget it. Even if you try to make it appear innocent, and clothe it with the attractive garb of virtue, it will still plague you, and grow stronger by indulgence. It will be an enemy within your castle that shall finally bind you and take full possession. Better trot him out while you can throttle him, once for all.

Why hold on to a bad habit? Why not stand out every wit a man? That is what you would say to another. Say it to yourself, and be done with it.

If you view it from only a financial standpoint, you will see it wise to do so. Bad habits cost more than good habits, and are worse than worthless; for they return you only evil, and that continually. More than half some people earn is thrown away on bad habits, and all they get in return is the plague of their life.

What hindrances they are to our progress; what dampers to our zeal; what barriers to our entrance into good society! Many a success slips through our fingers because our fingers are not clean. A very little blemish may be the symptom of disease within. One very little expenditure may be the evidence of a spendthrift habit. A cigaret costs less than a penny, but in the aggregate it represents many dollars of waste, and begets many associate habits of bad morals and thoughtless expense; and throwing it away may bring in a troupe of good thoughts, strong resolutions, and secret power, that will inspire the whole man.

THE FRUITS OF OLD AGE.

We used to dread old age. It seemed so barren and cold, so forsaken and lonely, so ossified and useless.

Well, there are old people whose manners, as their elbows, have become uncomfortably sharp; whose eccentricities, as their wrinkles, have become extremely pronounced; and whose mind, as their nerves, have become unsteady. They are quietly put in a corner till God shall mercifully come and call them. Their strength has so waned, their memories so failed, and all their powers become so childish, that they seem but "cumberers of the ground."

Yet, as we come now to get a better glimpse of old age, we can see something beautiful in it. As is life all through from childhood, is it not, in every stage, much as we make it? Each period has its special enjoyments, and glory, and usefulness. Childhood has its frolic, manhood its business, and old age its calm. If youth and manhood have been well spent, old age may have its golden glowing sun set. It may not be as full of planning and activity, but is it not nice to wipe the sweat from the brow and sit quietly by in restfulness? The step may not be quite so elastic, the voice not quite so sustained, and the fingers not quite so nimble, but is there not something compensating in the precision of the tread, in the mellow depth of the voice, and the preciseness of the work? Draw out the sleepy powers, bring back inspiration, stir up the skill, and see how speedily you recall wisdom, and vivacity, and strength.

But stop. We are speaking of old age; and we thought in the sixties we were catching a glimpse of it. But lo! as we advance toward it it recedes, and we are reminded that old age is the winter of life, when fruitage has ceased, and all the activities of life are put to rest, or in its weakness is useless. And that is not yet.

These thoughts were brought about more especially by seeing old age in a man of fifty. We visited him the other day to get inspiration, and found him a wreck in body and mind, with usefulness and pleasure at an end. Is not this old age, at any age? Ah, old age with some, does not always wait for years; and with

others, years do not easily catch up with old age. Who has not seen men of three score and ten in the vigor and glory and usefulness of manhood? And alas, alas; we have all seen the sweet juices of life all dried up in what should have been its prime.

How are you carrying yourself? You cannot abuse your energies, and yet keep them in vigor. Irregularities, excesses and overstrain of the normal powers are sure to bring on premature old age.

With the powers well preserved, some accomplish as much after sixty as they did in all their life before. The following incidents, put in the form of poetry, give us a wholesome lesson :

“ ‘It is too late!’ Ah, nothing is too late
Till the tired heart shall cease to palpitate.
Cato learned Greek at eighty; Sophocles
Wrote his grand *Ædipus*, and Simonides
Bore off the prize of verse from his compeers
When each had numbered more than fourscore years;
And Theophrastus at fourscore and ten
Had but begun his *Characters of Men*;
Chaucer, at Woodstock with the nightengales,
At sixty wrote *The Canterbury Tales*;
Goethe, at Weimar, toiling to the last,
Completed *Faust* when eighty years were past.
These are indeed exceptions; but they show
How far the gulf stream of our youth may flow
Into the arctic regions of our lives,
Where little else than life itself survives.”

How talkative some dentists are. It seems as though they thought they knew everything, and must hurry on to tell it to their patients before it spoils. Clatter, clatter goes their tongue as on a swivel. Talk of a woman's tongue, it is nothing compared with the sensitive vibrations of the dancing tongue of these talkative dentists. If there is such a tongue in a woman's mouth, the dentist's chair is a fine place to cure it. Her tongue is not only gagged, but brought to realize by the tongue that does clatter what a nuisance an unbridled tongue is.

Then, too, it is strange that these talkative dentists can talk so much without saying something. It does seem as though it was only the men of sense that know how to hold their tongue. If silence is golden, this must be the reason reticent men gather in the gold, while these eternal talkers are blowing off chaff.

But they sometimes blow in our faces worse than chaff. Men and women who talk a great deal are sure to talk much that is indiscreet, which leads to offensiveness, which leads to familiarity, which leads to contempt. Even if a fool keeps his mouth shut he may pass for a wise man.

READ CAREFULLY.

We cannot too frequently emphasize the necessity of reading subjects of importance slowly, thoughtfully, studiously. Some read everything so hurridly and superficially that it is of small use; little is remembered, and less is reduced to practice. Better read less and read thoroughly, so as to clearly comprehend and specifically to apply its use.

Usually we should read but little that is not important, for generally what is worth reading at all is worth reading well. It becomes, therefore, quite a question what is important. We can judge this partly by the character of the author, for some write nothing unimportant, so that we can commit ourselves to the study of their productions sure of its intrinsic worth. The Bible is a wonderful book in this respect. Recently a Sunday-school lesson commenced with this premise: "There was a man sent from God whose name was John." This was flippantly passed over for the more "important" part of the lesson. After a little I said: Let us look at the introductory sentence. Is it really such a mere casual interjection that we can get nothing out of it? Let us look at it closely.

We see there was a *man* sent from God. What an honor for a *man* to be sent from God! But really man is the most important being in the world. We are all sent from God. But see, said I to my class, there was a man sent from *God*. And do you not know that whatever and whoever God sends from heaven is good and pure? Yet some treat their children as though they had been

sent from the devil, all polluted and sinful, and that little good can be expected of them till they are converted into saints. They are saints already. There is not a sinful or a heathen child born into the world, though many of us older folks are so bad that our children are born into a sinful and degraded environment. Let us be good ourselves and bring up our children "in the nurture and admonition of the Lord," and they may remain saints. If this is not true, a vast amount of sin is necessary; and who is responsible for necessary sin?

But look again, said I. "There was a man *sent* from God." This implies a message and a messenger. Then we are sent here—commissioned as a messenger—to do something commensurate with our source. God no doubt sends intelligent beings as His messengers, His agents, His co-workers to all the millions of His worlds. We are sent from God on an errand, soon to return to Him to report. What shall be the report? That we have lived here idly, foolishly, uselessly? or that we have fulfilled the purpose for which we were sent?

But still, again, we continued, "There was a man sent from God *whose name was John*." A specific man sent to do a specific work. And there are others sent from God whose name is Peter, and James, and Hiram, and Henry; Mary, and Jane, and Annie, and Elizabeth, that as with John, are each sent into this world with a *special* message. All cannot be a John, but we can all do what we are sent to do, and this is just as special as John's work, and we are as specially endowed to do it as was John to do his work. We can not only do it better than any one else can, but no one can do it for us. If we thoroughly prepare ourselves for it, and wisely maintain ourselves in it, we are sure of success, and the world will be made better by our life. Let us each ask ourselves: What is my life work? And am I accomplishing it?

So we find in this apparently casual sentence food for much reflection. And so there is in many another sentence we lightly pass over, both in the Bible and elsewhere. Our forefathers had many less books than we, but they made their few books such a thorough study that they were not as ignorant and uncultured as some of us who have a large library.

HINTS.

It is folly to gage our prices to those of other dentists. They may do better work than we and, therefore, should have better prices; or they may be doing poorer work and, therefore, should have poorer prices. It is hard to see ourselves as we really are or as others see us; and yet, if we fail in this, we shall fail to see when our prices are too high or too low. If we would raise our prices above those of our fellows about us, we must raise ourselves above them. If we are not equal to this we must be contented with a lower seat and with poorer prices.

* * *

Are we not killing too many pulps of teeth? Where inflammation and maturation have destroyed a portion there may be reason for extermination, but where the pulps are comparatively healthy they may be saved. The excuse is often made that the process is too painful and uncertain. But pain is unnecessary, and with intelligent manipulation success is generally assured. We fear, many of us do what is the easiest, and what will better please our patients, who often want to escape trouble.

* * *

Better spend your money for candy than tobacco, and for cream than beer. Better be in the parlor than the saloon, and in the company of ladies and gentlemen than rowdies. Better learn the language of refinement than vulgarity, and beget a love for solid worth than nonsense. The man of dignity and good character has a great advantage over the one weighted with evil habits. Worth, wealth and popularity come to the one; and disgrace, poverty and isolation to the other. Change your coat and be of the select few, but be sure to change your character also.

* * *

AN EASY AND SAFE METHOD OF REMOVING PULP AFTER DEVITALIZATION.—Take a watch-maker's pivot broach, known as the Swiss broach, anneal it, wind a few shreds of cotton around the end, push it in the pulp cavity and slowly twist it. As the cotton is wound around the broach, the pulp will cling to the cotton, and thus will be taken out whole, without the danger of breakage usually accompanying the use of barbed broaches. It is not necessary to carry the instrument to the end of the root, but some cotton should be forced ahead of the broach before twisting it.

Dr. George L. Parmele, recorder under the Connecticut dental law, says it is a mistake that they have a poor law loosely executed. They have a good law rigidly adhered to, with three hundred and sixty-six registered dentists.

* * *

Dr. Downing, of Macomb, Ill., writes us that he regrets the effort of some in his State to amend the present dental law by unreasonably restricting the practice of dentistry. We have a letter from one of the legislators who takes the same view.

* * *

Simply obtaining a fistulous opening for an abscess, and thus stopping the swelling and pain, is no cure. The abscess itself must be destroyed. That dentist who cannot do this should immediately put himself under the instruction of one who can.

* * *

A SEPARATING MEDIUM THAT IMPARTS A SMOOTH GLOSSY SURFACE TO YOUR PLASTER.—Coat impression with very thin shellac varnish, just enough to color the plaster. Then coat with a varnish made by dissolving gum sandarach 3 parts, gum elemi 1 part, in pure alcohol. It must be thin enough not to form bubbles when applied with soft brush.

* * *

METALLURGY.—Dr. D. B. McHenry, Grenada, Miss., said before the Mississippi Dental Association, "We believe we should return to the earlier methods in prosthetic dentistry, before the advent of rubber plates, by the abuse of which the profession has been 'abused, vilified, degraded to the lowest depths at the hands of charlatans.'"

* * *

The proceedings of a convention is sure to drag when there is no live thought before it, and the more practical the thought is the better. When a paper puts the hearers to sleep better dispense with it, and when a discussion causes one and another to leave the room, it had better be cut short. The "routine of business" is often a nuisance. Better by far mature everything in committee and bring it in well digested.

* * *

Some dentists seem to think all their waste gold is almost so much loss. They are, therefore, pretty careful to put it in some where, and thus weaken their work, and waste much time in doing it. But it only cost \$32 an ounce, and as scrap gold it is worth \$20, and it takes some time to accumulate an ounce. It pays to use the best of everything everywhere. Sometimes a whole book of gold may have been injured. Don't try and "make it do." Throw it among your scrap gold and try new.

Hard mixed alloy is stronger, and has less shrinkage than soft mixed, though greater care is required to adapt it to the cavity, and it is apt to crumble under the spatula. Hot instruments will enable us the better to manipulate hard mixed alloy, and they will give a better finish to the surface. In absorbing superfluous mercury, by the use of bibulous paper or tinfoil, hot instruments are much preferable. An alloy thus inserted will set much harder, take on a better polish, and remain cleaner and brighter.

* * *

Of all pauperism, the most degraded and degrading, because utterly shameless and thriftless, is that aristocracy which idly luxuriates in money obtained through speculation, extortion or inheritance.

* * *

Yes, it is considerable trouble to finish alloy and gold filling exquisitely, yet it pays. It is better for the filling and for our reputation. Patients like this extra attention. They like "the feeling of it," and they take pride in showing its beauty, and this lustre reflects back on us. Then, too, if we finish work with precision and taste, we soon beget the habit of doing the whole work with exactness and skill. I hope some careless workman will read this and take a hint.

* * *

In filling temporarily a cavity with an exposed, or nearly exposed pulp, gutta-percha is one of the worst substances to be used. Mastication is almost sure to press it sufficiently on to the pulp as to produce pain and perhaps inflammation, if not supuration and death. Even the swelling of this material is sometimes fatal. After you have removed as much of the decay as you can, without disturbing the pulp, and you have placed on it a very little chloroform, tintured with equal parts of oil of cloves and carbolic acid, cover the tender portion with a slight coating of chloro-percha on a disk of paper, and then fill the cavity with oxiphosphate.

* * *

Dr. H. M. Brown, of Ashtabula, Ohio, says the dental law of that State was changed six years ago, as follows:

The members of the Dental Board are appointed for three years. Any person having a diploma from any reputable dental college shall file it with the Secretary of the Board, and appear before the board for examination and license, and pay ten dollars, and produce satisfactory and reasonable proof of the fact that he holds such diploma, or has been engaged in the practice of dentistry in this State since July 4th, 1889. Then he shall receive a certificate of registration and license to practice dentistry in this State.

In filling proximate cavities they should not be left flat, but contoured so that the walls of the teeth cannot touch each other again, and the filling should be left so smoothly oval that it will not allow the accumulation of *débris*.

* * *

It will help you to receive your patients with more genuine gentleness and delicate consideration, if you will often put yourself in their place. If we have actually suffered the pain they feel, and know from experience the fear and trembling with which they come to the dental chair, all the better. The dentist must not harden himself against sympathy with suffering. While he is ready to do his duty with steady nerve and intelligent deliberation, if he would become a favorite he must enter into his patient's feelings with true fellowship and commiseration.

* * *

FOR A HEALTHY EXPOSED PULP.—After quieting pain with chloroform, cover with a little cotton moistened with equal parts carbolic acid and oil of cloves, made into a thin paste with tannin, and then fill the cavity loosely with cotton, dropping on the surface a little, rather thick, sandarac varnish. In twenty-four hours remove all, dry, and, after covering the bottom of the cavity with chloro-percha (gutta-percha covered with chloroform), fill with soft oxiphosphate, pressing into the final surface bits of soft alloy or crystal gold, to be added to and burnished down for a veneer as soon as the cement is hard. This will make a better filling than when the whole cavity is filled with metal. I have sometimes covered the soft cement with a thin plate of gold nicely fitting the contour of the face of the cavity. Of course a small stay-piece to imbed in the soft cement should be soldered on the under surface.

* * *

"You succeeded beyond expectation." In doing what? Simply retaining that dead oscillating tooth in position. Are you so egotistical as to believe a healthy formation of process and gum tissue will take place sufficient to support that tooth in position without the aid of mechanical appliances?

You might have better assisted nature to perform her work by applying the forceps, and substituted an artificial tooth supported by narrow gold bands around the two centrals cemented in place, which you could have done in less time, and, doubtless, it would ultimately have been more permanent and satisfactory.

F. Clinton Croal, Elmira, N. Y.

FOR OUR PATIENTS.

THE WONDERS OF THE JOINTS.

Dr. J. H. Hanaford, in the *Phrenological Journal* for May, gives the following interesting facts relative to a most important function of the human body :

The more than two hundred bones of the body would be of but little service to us aside from their joint connections. Some of these are of a remarkable character.

The twenty-four ribs are attached to the spine by a kind of immovable joint, the seven upper ones to the breast bone, by cartilages ; three, more movable, are tied to each other and then fastened above, while four are "floating ribs;" these, with the six above, affording elasticity and motion in the act of breathing, accommodating themselves to the varying size of the chest.

In the place of these ribs a solid plate of bone would be cumbersome, heavy, not admitting of the motions needed at this part, while the curved and elastic ribs afford similar protection to the organs within. The wedge-shaped bone of the lower spine fits firmly in a corresponding cavity in the hip bone—a grand foundation bone of great strength, admirably adapted to its use.

Of the two other kinds of joints, the "ball-and-socket" and the "hinge," much might be said if space would admit. The ball-and-socket is well represented by the joint at the shoulder, which allows the arm to move in all needed direction.

That the arm may have a wider scope, the socket is very shallow, so that when "out joint" it may be easily put back almost by the unfortunate boy, if he only understood the matter. (It would not be safe for him to attempt to walk on his hands, instead of his feet, as the "ball" would slip out too easily for safety.) In this respect the hip joint differs, the socket being quite deep, at the bottom of which there is a round, strong cord, which is so attached to the thigh bone as to prevent dislocation, unless from a severe accident. In consequence of this depth the leg is not afforded much movement, its principal movement being that of walking—a boy need not kick! This depth is needed to bear the weight of the body, with that of burdens which must be carried, in active light. This "ball" cannot get out without breaking the cord, in which case it is useless to put the "ball" back. In a dislocation, the "ball" being pressed up, nature (God in nature) by the aid of the nerves, blood, etc., performs a miracle, making a "socket" around this "ball," so that, after awhile, one can walk

tolerably well, always limping, however, because the leg has become shorter than the other.

The other joint is the "hinge joint," like that of the common door, admitting of motion only forward and backward. In the arm which demands so many motions, the two joints are supplied, making the limb wonderfully useful, adapting it to various, if not numberless, employments. Think of the friction of walking naturally resulting from our motions, particularly of the bones of the leg and thigh, caused by the weight of the body! Indeed, if these were made of steel, without any means of lubrication, only a few years would be required to wear them away so that a man would be cut down to one half his height. To prevent this, the ends of the bones are provided with a smooth, gristly matter, which is repaired as fast as it wears away, the joint supplying its own oil, with no care on our part. Thus the wonderful machinery of the body goes constantly on.

Sc. Am.

ENGLISH IN SOUND.—The *Northwestern Magazine* gives the following unique composition, written by a twelve-year-old school girl. Let our young readers see if they cannot make it still more puzzling:

"A right suite little buoy, the son of a kernel, with a rough round his neck, flue up the road as quick as a dear. After a thyme he stopped at the house and wrung the belle. His tow hurt him and he kneaded wrest. He was too tired to raze his fare, pail face, and a feint mown of pane rose from his lips. The made who herd the belle was about to pair a pare, but she through it down and ran with all her mite, for fare her guessed would not weight; but when she saw the little won tiers stood in her eyes at the site. 'Ewe poor dear. Why do you lye here? Are you dyeing?' 'Know,' he said, 'I am feint.' She boar him inn her arms, as she ought, to a roam where he might be quiet, give him bred and meet, held a cent bottle under his knows, untide his choler, rapped him up warmly, gave him a suite drach from a viol, till at last he went forth as hail as a young hoarse."

A STROKE OF BUSINESS.—A young man was standing on a street corner smoking a cigaret and blowing the smoke proudly through his nose, when a gentleman stopped and said to him:

"Will you be kind enough to favor me with your name and address?"

"And why should I give you my name and address? You are a stranger to me," replied the young man, lighting a fresh cigaret.

"You will please pardon the request," continued the gentleman, "but it is merely a matter of business. I have watched the expert manner in which you handle cigarets, and, being an undertaker, I would sort o'like to get on speaking terms with your immediate family."

NITROUS OXID GAS.

This gas is obtained by heating a substance technically called ammonium-nitrate in a retort. It is composed of hydrogen, nitrogen and oxygen. The last two gases are the chief constituents of the air we breathe, and in differing proportions compose nitrous oxid gas.

Though odorless and colorless, the gas is sweet to the taste; through its action on the nerves there is an entire loss of consciousness, and with that of course all sensation and volition. This lasts but a few moments. There is naturally considerable shrinking from it on the part of those who are unacquainted with its character. But statistics, carefully collected, show that it is by far the safest of the anesthetics, and when properly administered that there is less risk from it than from the operation itself. It is given daily by those who possess no special medical knowledge, and who take no precautions as to examination before administering it. Yet rarely has any harm resulted, even though patients were suffering from diseases which are of themselves dangerous.

I may add that in many cases nitrous oxid has proven a remedial agent, and where other remedies have failed it has afforded relief. It may be administered to women in the later stages of pregnancy. The shock experienced by the nervous system from extracting a tooth without the gas, is far more dangerous and more likely to produce evil results than would the same operation be with it. While it is true that during this period women should not have their teeth extracted unless it becomes absolutely necessary, it is equally true that expectant mothers should not be permitted to suffer from protracted pain. The effect of that on both the mother and babe may prove a lasting injury to each, during all the years of their subsequent life.

Let the patient take the gas on an empty stomach, and be perfectly calm; then its inhalation will be safe, and it will relieve the dreaded extraction of all its horrors.

If people have badly-decayed teeth or roots that do not ache, they should at once be put in a sanitary condition. If this cannot be done, they should be extracted, for if allowed to remain they may bring in their train any one of a long list of diseases. But it is a sad fact that many unnecessarily lose their teeth. No pains or expense should be begrudged to save them.

ALMOST OVERCOME.

The lack of emotional expression, due sometimes to reserve or a horror of gush, and often to the habit of repression—native, or acquired through growing up in a family in which the declaration of affection is not encouraged—has wrecked many married lives that would otherwise have been happy. There are doubtless many who will sympathize with the hero in the following story from the *Youth's Companion*:

"A man of New England descent and education had been married about a year, and was devotedly attached to his wife. His life without her had been a hard and solitary one, and in the sunshine she brought him his nature blossomed out in good deeds and gentle thoughts.

"You are not as melancholy as you used to be," said an old acquaintance to him not long ago.

"Melancholy! I should say not!" he returned, with emphasis. "How could anybody be sad with such a wife as I've got? Why, sometimes when I think what she's been to me, it's as much as I can do to keep from showing right out what I think of her!"

A GIRL'S COMPOSITION.—Boys are men that have not got as big as their papas, and girls are women that will be ladies by-and-by.

Man was made before woman.

When God looked at Adam he said to himself, "Well, I think I can do better if I try again."

And then he made Eve.

God liked Eve so much better than Adam that there have been more women than men ever since.

Boys are a trouble.

They wear out everything but soap.

If I had my way, half of the boys in the world would be girls, and the rest would be dolls.

My papa is so nice that I think he must have been a little girl when he was a little boy.

Watchword.

The feeling of discomfort after teeth have been filled is often a pretty sure evidence that "something is wrong," and it is wise to look diligently for the wrong.

NOTICES.

Dr. John J. R. Patrick is dead. The doctor attained such a world-wide reputation as a dentist and a scholar that to mention his name is to call to mind a familiar friend and brother. He had been poorly for a year, but had so far rallied that two weeks before his death he married Miss Annie Rischer, an amiable lady, who for some time had acted as his amenuensis. He was a useful, progressive, kind-hearted man.

* * *

At the nineteenth annual meeting of the Vermont State Dental Society, held at Brandon, Vermont, March 20th to 22d, 1895, the following officers were elected for the ensuing year:

President, Dr. E. O. Blanchard, West Randolph; First Vice-President, Dr. F. P. Mather, Chester; Second Vice-President, Dr. C. S. Campbell, St. Albans; Secretary, Dr. T. Mound, Rutland; Treasurer, Dr. W. H. Munsell, Wells River; Executive Committee, Dr. J. A. Robinson, Morrisville; Dr. K. L. Cleaves, Montpelier; Dr. H. Turrill, Rutland; State Prosecutor, Dr. G. W. Hoffman, White River Junction. Next meeting to be held at Montreal, Quebec, the third Wednesday in March, 1896.

Thomas Mound, Secretary.

* * *

"Dental Prosthesis and Metallurgy," by Prof. George W. Warren, is a good book for beginners in dental study. It does not take the place of standard and extensive works, but as a compend, as this is called, it does well. P. Blakiston, Son & Co., Philadelphia. Price, \$1.50.

* * *

"Dental Medicine and Therapeutics," by Prof. F. G. S. Gorgas, fifth edition, \$4.00. This is a book "up to date" in its sphere. Much pain is taken to so keep abreast the times that it shall really take the place of all others of its kind. No dental library should be without, and certainly no dental student can dispense with it.

* * *

"Manual of Operative Technics," by Dr. Thomas B. Weeks, is quite a condensed treatise for students. In the language of the author it is "an attempt to outline a course and to present a succinct statement of principles, which shall be a primer on operative dentistry for the student, his handbook and constant reference while performing the operations required. The desire to be helpful to both teacher and student has been the constant motive, and I hope that the object may be realized, and that the principles are so represented that all teachers may use them as a basis for their own particular methods."

The twenty-sixth annual meeting of the Virginia State Dental Association will be held at the White Sulphur Springs, West Virginia, Tuesday, August 13th, 1895, at 10 A. M.

The Executive Committee intend that this shall be the best meeting in the history of the Association.

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The thirtieth annual meeting of the Maine Dental Society will be held at Bangor, July 16th and 17th.

The Executive Committee assure an attractive program.

The State Board of Dental Examiners will meet at the same time and place
F. A. Knowlton, Secretary.

* * *

CHAPIN A. HARRIS, MEMORIAL FUND.—A movement is in progress to insure a mortuary tribute to the memory of one of the greatest names in the annals of dentistry. It is proposed to adorn his neglected tomb at Mount Olivet Cemetery with a monumental testimonial worthy of his name and fame.

Mr. Ernest W. Keyser, the talented Baltimore sculptor, now in Paris, has modeled a remarkably faithful portrait bust of Dr. Harris, and executed designs intended for a monument to be erected over his grave.

It is also in contemplation that should sufficient funds be realized, a memorial tablet containing an alto relievo bronze bust of Dr. Harris be placed in both the Baltimore College of Dental Surgery and the Dental Department of the University of Maryland.

It is believed that the necessary funds can be obtained through voluntary subscriptions from the dental profession. The Snowden & Cowman Manufacturing Company of Baltimore has kindly consented to act as custodians of the "Harris Memorial Fund." Contributions are earnestly solicited and will be thankfully acknowledged.

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The annual meeting of the National Association of Dental Faculties will be held at Asbury Park, New Jersey, on Saturday, August 3d, at 10 o'clock A. M. It is very desirable that all the colleges having membership be promptly present at that hour, as much important business will be before the Association, and the time allotted is usually short for the work to be done.

The Executive Committee of the Association will meet on Friday previous at 10 o'clock, at the same place. All business for that committee should, so far as possible, be in their hands before the meeting, in order that there be no delay.

Louis Ottofy, Secretary, Masonic Temple, Chicago.